

FIG. 1

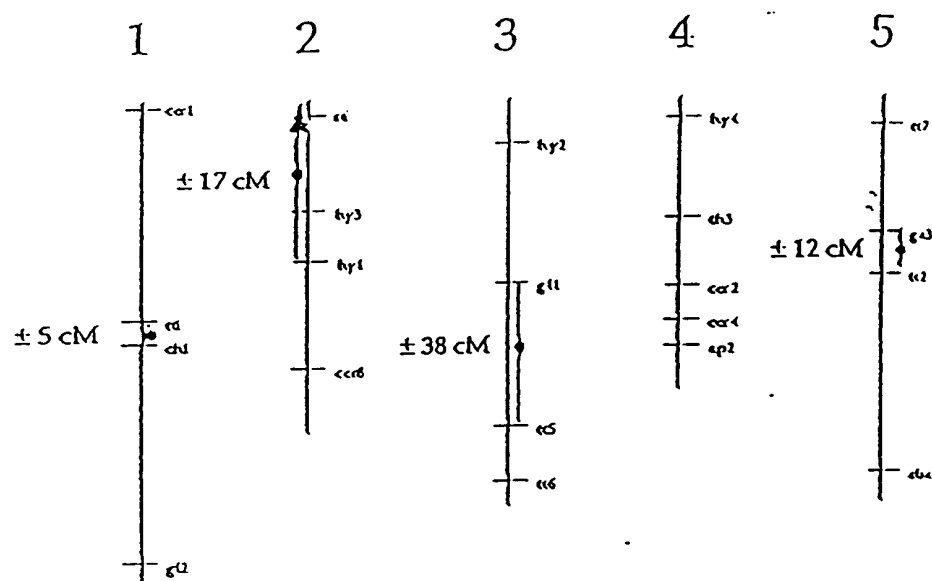
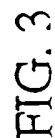


FIG. 2



		B	C	D
1	T1-1	PLA 391	tetrad seed stock	
2	T1-2	PLA 392	tetrad seed stock	
3	T1-3	PLA 393	tetrad seed stock	
4	T1-4	PLA 394	tetrad seed stock	
5				
6	T2-1	PLA 395	tetrad seed stock	
7	T2-2	PLA 396	tetrad seed stock	
8	T2-3	PLA 397	tetrad seed stock	
9	T2-4	PLA 398	tetrad seed stock	
10				
11	T3-1	PLA 399	tetrad seed stock	
12	T3-2	PLA 400	tetrad seed stock	
13	T3-3	PLA 401	tetrad seed stock	
14	T3-4	PLA 402	tetrad seed stock	
15				
16	T4-1	PLA 403	tetrad seed stock	
17	T4-2	PLA 404	tetrad seed stock	
18	T4-3	PLA 405	tetrad seed stock	
19	T4-4	PLA 406	tetrad seed stock	
20				
21	T5-1	PLA 407	tetrad seed stock	
22	T5-2	PLA 408	tetrad seed stock	
23	T5-3	PLA 409	tetrad seed stock	
24	T5-4	PLA 410	tetrad seed stock	
25				
26	T6-1	PLA 411	tetrad seed stock	
27	T6-2	PLA 412	tetrad seed stock	
28	T6-3	PLA 413	tetrad seed stock	
29	T6-4	PLA 414	tetrad seed stock	
30				
31	T7-1	PLA 415	tetrad seed stock	
32	T7-2	PLA 416	tetrad seed stock	
33	T7-3	PLA 417	tetrad seed stock	
34	T7-4	PLA 418	tetrad seed stock	
35				
36	T8-1	PLA 419	tetrad seed stock	
37	T8-2	PLA 420	tetrad seed stock	
38	T8-3	PLA 421	tetrad seed stock	
39				
40	T10-1	PLA 422	tetrad seed stock	
41	T10-2	PLA 423	tetrad seed stock	
42	T10-3	PLA 424	tetrad seed stock	
43				
44	T11-1	PLA 425	tetrad seed stock	

FIG. 4

[illegible]

		B	C	D
45	T11-2	PLA 426	tetrad seed stock	
46	T11-3	PLA 427	tetrad seed stock	
47				
48	T12-1	PLA 428	tetrad seed stock	
49	T12-2	PLA 429	tetrad seed stock	
50	T12-3	PLA 430	tetrad seed stock	
51				
52	T13-1	PLA 431	tetrad seed stock	
53	T13-2	PLA 432	tetrad seed stock	
54	T13-3	PLA 433	tetrad seed stock	
55				
56	T14-1	PLA 434	tetrad seed stock	
57	T14-2	PLA 435	tetrad seed stock	
58	T14-3	PLA 436	tetrad seed stock	
59				
60	T18-1	PLA 437	tetrad seed stock	
61	T18-2	PLA 438	tetrad seed stock	
62	T18-3	PLA 439	tetrad seed stock	
63				
64	T20-1	PLA 440	tetrad seed stock	
65	T20-2	PLA 441	tetrad seed stock	
66	T20-3	PLA 442	tetrad seed stock	
67				
68	T27-1	PLA 443	tetrad seed stock	
69	T27-2	PLA 444	tetrad seed stock	
70	T27-3	PLA 445	tetrad seed stock	
71				
72	T28-1	PLA 446	tetrad seed stock	
73	T28-2	PLA 447	tetrad seed stock	
74	T28-3	PLA 448	tetrad seed stock	
75				
76	T29-1	PLA 449	tetrad seed stock	
77	T29-2	PLA 450	tetrad seed stock	
78	T29-3	PLA 451	tetrad seed stock	
79				
80	T30-1	PLA 452	tetrad seed stock	
81	T30-2	PLA 453	tetrad seed stock	
82	T30-3	PLA 454	tetrad seed stock	
83	T30-4	PLA 455	tetrad seed stock	
84				
85	T31-1	PLA 456	tetrad seed stock	
86	T31-2	PLA 457	tetrad seed stock	
87	T31-3	PLA 458	tetrad seed stock	
88				

FIG. 4 (cont'd)

		B	C	D
89	T32-1	PLA 459	tetrad seed stock	
90	T32-2	PLA 460	tetrad seed stock	
91	T32-3	PLA 461	tetrad seed stock	
92	T32-4	PLA 462	tetrad seed stock	
93				
94	T33-1	PLA 463	tetrad seed stock	
95	T33-2	PLA 464	tetrad seed stock	
96	T33-3	PLA 465	tetrad seed stock	
97				
98	T34-1	PLA 466	tetrad seed stock	
99	T34-2	PLA 467	tetrad seed stock	
100	T34-3	PLA 468	tetrad seed stock	
101	T34-4	PLA 469	tetrad seed stock	
102				
103	T35-1	PLA 470	tetrad seed stock	
104	T35-2	PLA 471	tetrad seed stock	
105	T35-3	PLA 472	tetrad seed stock	
106	T35-4	PLA 473	tetrad seed stock	
107				
108	T36-1	PLA 474	tetrad seed stock	
109	T36-2	PLA 475	tetrad seed stock	
110	T36-3	PLA 476	tetrad seed stock	
111	T36-4	PLA 477	tetrad seed stock	
112				
113	T37-1	PLA 478	tetrad seed stock	
114	T37-2	PLA 479	tetrad seed stock	
115	T37-3	PLA 480	tetrad seed stock	
116	T37-4	PLA 481	tetrad seed stock	
117				
118	T38-1	PLA 482	tetrad seed stock	
119	T38-2	PLA 483	tetrad seed stock	
120	T38-3	PLA 484	tetrad seed stock	
121	T38-4	PLA 485	tetrad seed stock	
122				
123	T39-1	PLA 486	tetrad seed stock	
124	T39-2	PLA 487	tetrad seed stock	
125	T39-3	PLA 488	tetrad seed stock	
126				
127	T40-1	PLA 489	tetrad seed stock	
128	T40-2	PLA 490	tetrad seed stock	
129	T40-3	PLA 491	tetrad seed stock	
130				
131	T41-1	PLA 492	tetrad seed stock	
132	T41-2	PLA 493	tetrad seed stock	

FIG. 4 (cont'd)

		B	C	D
133	T41-3	PLA 494	tetrad seed stock	
134	T41-4	PLA 495	tetrad seed stock	
135				
136	T42-1	PLA 496	tetrad seed stock	
137	T42-2	PLA 497	tetrad seed stock	
138	T42-3	PLA 498	tetrad seed stock	
139				
140	T43-1	PLA 499	tetrad seed stock	
141	T43-2	PLA 500	tetrad seed stock	
142	T43-3	PLA 501	tetrad seed stock	
143				
144	T44-1	PLA 502	tetrad seed stock	
145	T44-2	PLA 503	tetrad seed stock	
146	T44-3	PLA 504	tetrad seed stock	
147	T44-4	PLA 505	tetrad seed stock	
148				
149	T45-1	PLA 506	tetrad seed stock	
150	T45-2	PLA 507	tetrad seed stock	
151	T45-3	PLA 508	tetrad seed stock	
152	T45-4	PLA 509	tetrad seed stock	
153				
154	T46-1	PLA 510	tetrad seed stock	
155	T46-2	PLA 511	tetrad seed stock	
156	T46-3	PLA 512	tetrad seed stock	
157	T46-4	PLA 513	tetrad seed stock	
158				
159	T48-1	PLA 514	tetrad seed stock	
160	T48-2	PLA 515	tetrad seed stock	
161	T48-3	PLA 516	tetrad seed stock	
162				
163	T49-1	PLA 517	tetrad seed stock	
164	T49-2	PLA 518	tetrad seed stock	
165	T49-3	PLA 519	tetrad seed stock	
166	T49-4	PLA 520	tetrad seed stock	
167				
168	T52-1	PLA 521	tetrad seed stock	
169	T52-2	PLA 522	tetrad seed stock	
170	T52-3	PLA 523	tetrad seed stock	
171				
172	T53-1	PLA 524	tetrad seed stock	
173	T53-2	PLA 525	tetrad seed stock	
174	T53-3	PLA 526	tetrad seed stock	
175				
176	T55-1	PLA 527	tetrad seed stock	

FIG. 4 (cont'd)

FIG. 4. (cont'd)

	A	B	C	D
177	T55-2	PLA 528	tetrad seed stock	
178	T55-3	PLA 529	tetrad seed stock	
179				
180	T56-1	PLA 530	tetrad seed stock	
181	T56-2	PLA 531	tetrad seed stock	
182	T56-3	PLA 532	tetrad seed stock	
183	T56-4	PLA 533	tetrad seed stock	
184				
185	T57-1	PLA 534	tetrad seed stock	
186	T57-2	PLA 535	tetrad seed stock	
187	T57-3	PLA 536	tetrad seed stock	
188	T57-4	PLA 537	tetrad seed stock	
189				
190	T58-1	PLA 538	tetrad seed stock	
191	T58-2	PLA 539	tetrad seed stock	
192	T58-3	PLA 540	tetrad seed stock	
193				
194	T60-1	PLA 541	tetrad seed stock	
195	T60-2	PLA 542	tetrad seed stock	
196	T60-3	PLA 543	tetrad seed stock	
197	T60-4	PLA 544	tetrad seed stock	
198				
199	T61-1	PLA 545	tetrad seed stock	
200	T61-2	PLA 546	tetrad seed stock	
201	T61-3	PLA 547	tetrad seed stock	
202	T61-4	PLA 548	tetrad seed stock	
203				
204	T62-1	PLA 549	tetrad seed stock	
205	T62-2	PLA 550	tetrad seed stock	
206	T62-3	PLA 551	tetrad seed stock	
207				
208	T63-1	PLA 552	tetrad seed stock	
209	T63-2	PLA 553	tetrad seed stock	
210	T63-3	PLA 554	tetrad seed stock	
211				
212	T64-1	PLA 555	tetrad seed stock	
213	T64-2	PLA 556	tetrad seed stock	
214	T64-3	PLA 557	tetrad seed stock	
215	T64-4	PLA 558	tetrad seed stock	
216				
217	T66-1	PLA 559	tetrad seed stock	
218	T66-2	PLA 560	tetrad seed stock	
219	T66-3	PLA 561	tetrad seed stock	
220				





Chromosome #	Marker name	name used in '99 manuscript	Marker Type	Public?	Forward Primer	Reverse Primer
1	nga59		SSLP	YES		
1	nga63		SSLP	YES		
1	m59		CAPS (BstU I)	YES		
1	q2395		CAPS (Xba I)	YES		
1	m235		CAPS (Hind III)	YES		
1	athZFPQ		SSLP	YES		
1	SO392		SSLP	YES		
1	UFO		CAPS (Taq I)	YES	CGCCAAAGACTACGAAATGATC	ATAATAGATAAAGAGCCCCACAC
1	Cxc750		SSLP	NO	GGGTCTGGTTATGCCGTGAAG	GTTTACTTAGTCCAATGGTAG
1	7G6		CAPS (Acc I)	NO	AAATGGCCACGATCAGAAGAATAG	GAAGTCGGCATGTTATCACCACAG
1	AlG1		CAPS (Mnl I)	NO	CAAGTCGCAACCGGAAATG	AACTACGCCCTAACCACTATTCTC
1	m163		CAPS (Nla III)	NO	GAAGTACAGCGGCTCAAAAAGAG	TTGCTGCCATGTATACCTAAGTG
1	m1342	m1342	CAPS (Hinf I)	NO	GAAGTACAGCGGCTCAAAAAGAG	GAAGTACAGCGGCTCAAAAAGAG
1	T22C23-17	T22C23-17	CAPS (Mnl II)	NO	GTTCACCTTCAATTCATTCCTTTC	GGAGTCAATTCCTTTCCTTTC
1	T5D18-sp6	T5D18-sp6	CAPS (Acl I)	NO	AAGATAAGCGACGAGGATGCTC	GGAGGCGGTAAGTACATATATAG
1	F16K23-sp6	F16K23-sp6	SSLP	NO	TACACGATACAGGAGAGAG	CTGATTCGAGTTCATTCATC
1	T19K14-sp6	T19K14-sp6	SSLP	NO	TCCATACCTAAGTTCGACAC	AGGCGCAGTAAATGATC
1	F5L13-sp6	F5L13-sp6	CAPS (Ccd8 II)	NO	GAAGTCGGATCTGCTTTCAG	ATATWAGCGGAGATGCTG
1	T3L14-sp6	T3L14-sp6	CAPS (Mae II)	NO	ATTCATGAGTGCAGGAGGATAG	CTCAGGCAAGATGAGTACAG
1	T3P8-sp6	T3P8-sp6	CAPS (Hae III)	NO	AAGCTTCATCTGCTGCTTTC	AGATTCCTTACGGTGGTGG
1	T10N9-sp6	T10N9-sp6	SSLP	NO	GGCTTGGATGATCAGTGGTG	AGCCCTTGGATCATATCTTATGC
1	T27K12		SSLP	YES		GAATCTTTGCAACGAGTGG
1	lcc3		CAPS (Nla III)	NO	GGCTACTGGTCAATCATTC	TTACCCCGCAGGAAAAAGTATG
1	GPCml19		CAPS (Fnu4H I)	NO	GCGGCTGATGATCTCCACCTC	
1	nga280		SSLP	YES		
1	nga128		SSLP	YES		
1	ETR		CAPS (Nco I)	YES		
1	TAG1		SSLP	YES		
1	AthATPASE		SSLP	YES		
1	nga692		SSLP	YES		
2	nga1145		SSLP	YES		
2	m246		CAPS (Mae III)	YES		

FIG. 5

[illegible]

2	mi310		SSLP	NO	ACTCATCACTTGGGACTG	GGCCCAAGAGCCCAACAC
2	F5J15-sp6	F5J15-sp6	CAPS (HhaI I)	NO	ACGCAAGTGTGGCTGTC	GTATCTAGACAGATGTTAGGAGTTAC
2	F28M13-t7		CAPS (Mse I)	NO	ATCGCTAATTAAGCTTTTATATAG	CGATGTATGATGATGATGAGG
2	F16D14-t7		SSLP	NO	TGAGAGGCTGCAAAATCATACAG	ACCGCTGCTGGAGG
2	T22D4-t7		CAPS (HhaI I)	NO	CGCCGCTTACAGCAGAC	AAACATGATATTTAGATGTGTATCG
2	T20I5-t7		SSLP	NO	CGTTGCAAGGCTTGTG	ATTAGAGTTTGGCTACAGATGCG
2	F9A16-t7		SSLP	NO	AACATGATTTCTAGTCTTTATTTAG	GATGCTATATGCTGCTG
2	m1421b		CAPS (Hae III)	NO	TAAAGCTTCCAGATCAGC	AAGTGTACCTGGGCA
2	F8P2-t7		SSLP	NO	CATCTCCATGAAAGGTGATAG	AAGTATGGCAATGTTATGACG
2	T15D9-t7		SSLP	NO	GAGCCCTTATGAGGCTACCTGTC	AGAGTCCGCTGTTACTAAAGCCTATTCTG
2	T6A13-sp6		SSLP	NO	ATATTGCTGATGCTGTTTG	GTGCTCAGGGGACTTCAC
2	T13H18-t7		SSLP	NO	GGTAACAGCCTCACTCGTC	AAAGCTTGATTTGGGATTTG
2	T13H18-sp6		SSLP	NO	TCTTCCCTTAATCTATTGTTGTG	AAAGGATTTTCTCTGTAGTG
2	T10J7-sp6		SSLP	NO	TCTCTGTGCTTCTCTTCTGAC	GCAATGCTACCGCTCTGATAG
2	T17A11-t7		CAPS (Msp I)	NO	TTGTTTTCTAGGTTTTGTTGTAAG	ATGCTGCGATGTTTGTAAAG
2	GPO6		SSLP	NO	AGTGGATGCTAGGCTCTTC	CTCCATTTCTTGATTAGTTTC
2	m1398		CAPS (Mnl I)	NO	ACTAAGGCCCTGTTGATGTTTCTC	AACGGCTTCCCATTCGCTTC
2	THY1B		CAPS (Rsa I)	NO	GGCGACCTTGGACCTGTATACG	AACGGCATTTTTCATTCTATC
2	PhyB		CAPS (Xho I)	YES		
2	nga1126		SSLP	YES		
2	nga361		SSLP	YES		
2	nga168		SSLP	YES		
3	nga32		SSLP	YES		
3	nga172		SSLP	YES		
3	nga162		SSLP	YES		
3	ARLIm		CAPS (EcoRI)	YES		
3	GAPA		SSLP	YES		
3	GL1		CAPS (Taq I)	YES		
3	atpox	atpox	CAPS (Msp I)	NO	TAGGGGACATATCAAAACCAAC	GTCTAAAACCATCTTCACCATAT
3	T25C10-sp6	T25C10-sp6	SSLP	NO		
3	T27C7-sp6	T27C7-sp6	SSLP	NO	ATGGCTAAGTATTTGGCTGAC	TTGTGTAGTCTGTTTGTAGTGG
3	T9C9-sp6	T9C9-sp6	SSLP	NO	GGCATTAATTTGGCAGGTC	TATATAGATGAAAGGGGTATGAG
3	T14H20-t7	T14H20-t7	SSLP	NO	GCATTAAGAGCAAAWAGGCG	CGTTACGCGGCAAGATTAAG
3	T7K14-sp6	T7K14-sp6	SSLP	NO	TTGGGCAATCATGTTGTATAGAG	TGTCAATATGATGCTGTTGAG
3	T21P20-sp6	T21P20-sp6	CAPS (Nse I)	NO	CAAGCTTCATGGGCACTAG	TAAATGCGGAGATGTACAGAC
3	T20L2-t7	T20L2-t7	CAPS (Apo I)	NO	CTAATTTGTAAGGCAAGAGAGAG	AAGCATTTATGCTGGCATTTG

FIG. 5 (cot'd)

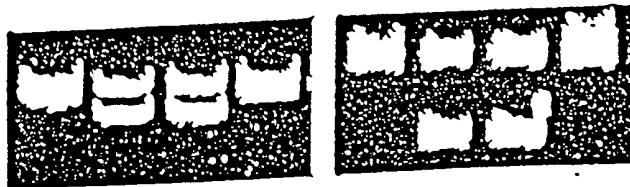
Accession	Gene	Strain	SSLP	NO	Sequence
3	ASD.1	T5M14.sp6	CAPS (Nla III)	NO	CAATGATGTCGGTCTATCTTC
3	AIAO-2.2	ASD.1	CAPS (Dde I)	NO	ATGATCAAGGGGACGAGG
3	91F1		CAPS (Fnu4H I)	NO	GAGACAGAGGATTGGAAAC
3	NIT		SSLP	YES	COOCTCCCGCOCTAAACCTAC
3	AFC1		CAPS (Pvu II)	YES	
3	TSA		CAPS (Alu I)	YES	
3	nga112		SSLP	YES	
4	GA1		CAPS (BsaB I)	YES	
4	m1233		SSLP	NO	CGTATCCCTGAAAGTGACCTG
4	T5L23.30k14		SSLP	NO	ATCTTTTGTCTTATGGACTTC
4	T5L23.28k		CAPS (Rsa I)	NO	AGGACGATGATACGCTTGTGGAG
4	T5L23.32k		CAPS (Msp I)	NO	TTGGTTTAAAGGCTTGGTGTAGG
4	T5L23.50k		CAPS (Alu I)	NO	GTTTAAATTTTATGTCATGCTGTTTC
4	T5L23.30k17		CAPS (Tsp509 I)	NO	CGCGACCTTAGOCTTGTTGTG
4	T7M24.30k11		SSLP	NO	ATATCCGGCTCCGAACCTTGTTG
4	T25H8.30k9		SSLP	NO	TGAGGGGGCTGACATTTCTTC
4	T7M24.30k12		SSLP	NO	TOGGTTGGGATAGAAAATGG
4	T7M24.30k13		SSLP	NO	CTCTCATCGACCTCACTCTCAAG
4	T25H8.30k8		SSLP	NO	GGCTCCATGCTACCAACAAC
4	T25H8.30k7		SSLP	NO	TGGCAGCAGATTATTGACGAG
4	T24H24.30k3	T24H24.3	SSLP	NO	GGCTTCCCATTAACCTG
4	T27D20.04	T27D20.4	CAPS (Dde I)	NO	AAAGGGGGGAAATGACAAAG
4	m1306	m1306	CAPS (Hae III)	NO	CTGGAGCGGACGGTCAATG
4	nga12		SSLP	YES	AATCAATGGCTTCTACATTTAG
4	T15D16.sp6	T15D16.t7	CAPS (Mbo I)	NO	TTTCAGGGGCTATCTTACG
4	m137	m137	SSLP	NO	TGGATAGATTTATATTTCTCTCAG
4	F14G16.t7	F14G16.t7	SSLP	NO	GGCAATGGTTCCGACATGAG
4	F13H14.t7	F13H14	SSLP	YES	AGTGGACGCTTCTTCAATGTG
4	m1167	m1167	SSLP	NO	CTTCACGCTGCCCTCAGTCTC
4	T25J3-sp6		SSLP	NO	CAAAACCAAAATCCGCGAAGAAC
4	T3F12.0		CAPS (Bgl II)	NO	
4	HY4		CAPS (Rsa I)	YES	
4	nga8		SSLP	YES	
4	nga1111		SSLP	YES	
4	DET1		SSLP	YES	

**FIG. 5 (cot'd)**

	COP9		CAPS (Apo I)	YES
4	COP9		CAPS (Acc I)	YES
4	SC5		CAPS (Hind III)	YES
4	g4539		CAPS (Xba I)	YES
4	AG		SSLP	YES
4	nga1139		SSLP	
4	nga1107		SSLP	YES
5	CTR1		SSLP	YES
5	ca72		SSLP	YES
5	nga106		SSLP	YES
5	nga139		SSLP	YES
5	SO262		SSLP	YES
5	nga76		SSLP	YES
5	F18K20-17	F18K20-17	CAPS (MseI)	NO
5	T18M4-17	T18M4-17	CAPS (SbfI)	NO
5	T18F2-sp6	T18F2-sp6	CAPS (MseI)	NO
5	T2420-sp6	T2420-sp6	SSLP	NO
5	GUE1	GUE1	CAPS (MseI)	NO
5	T2J22-sp6	T2J22-sp6	SSLP	NO
5	T17M11-sp6	T17M11-sp6	SSLP	NO
5	T14O24-sp6	T14O24-sp6	CAPS (Tsp509 I)	NO
5	F18G23	F18G23-17	SSLP	NO
5	T2L5.3K	T2L5.3	CAPS (Fnu4H I)	NO
5	F7N22.3k1		CAPS (Bfa I)	NO
5	T3L6-sp6	T3L6-sp6	CAPS (Mnl I)	NO
5	T21K16-t7		SSLP	NO
5	phyC		SSLP	YES
5	SO191		SSLP	YES
5	DFR			YES
5	Lfy			YES



T2-1 T2-2 T2-3 T2-4 T2-1 T2-2 T2-3 T2-4



Plant genotype

$\frac{L}{L}$

$\frac{L}{C}$

$\frac{L}{C}$

$\frac{L}{L}$

$\frac{L}{L}$

$\frac{L}{C}$

$\frac{L}{C}$

$\frac{L}{L}$

Pollen genotype

L

C

C

L

L

C

C

L

PCR marker

SO392

nga76

FIG. 6

000250-021550

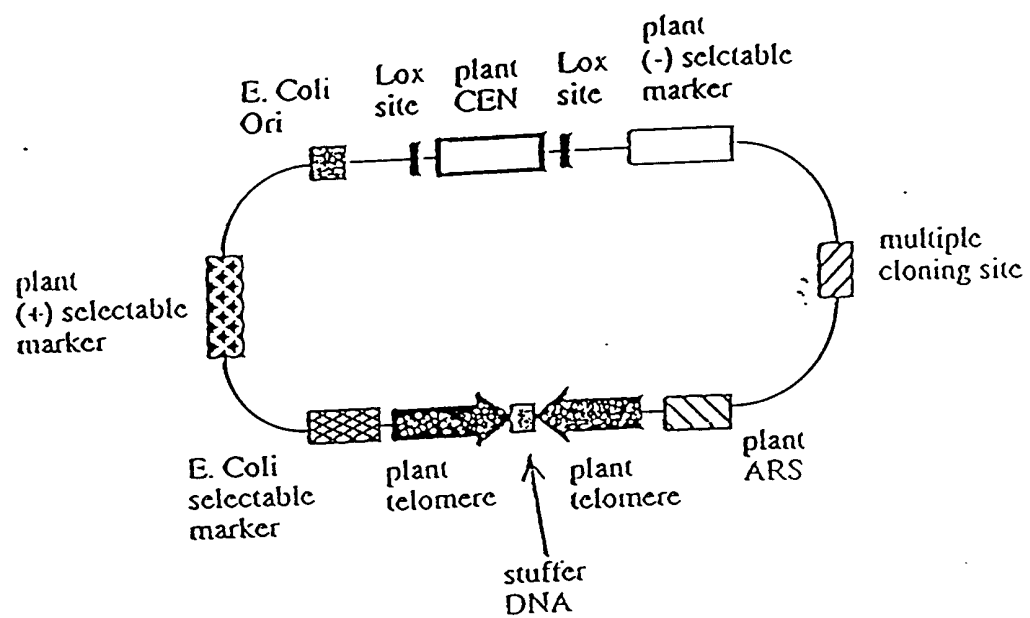


FIG. 7A

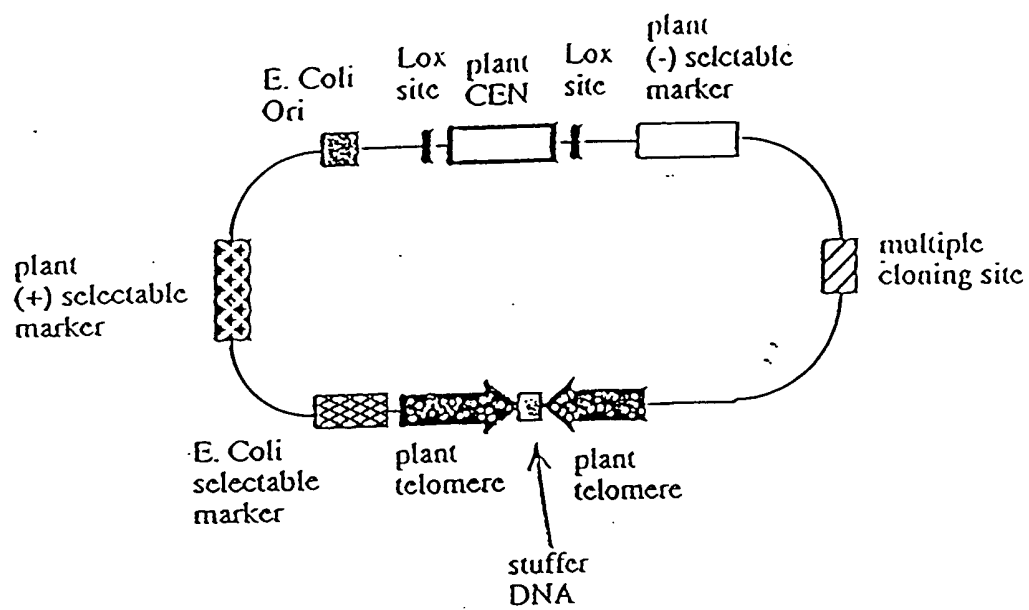


FIG. 7B



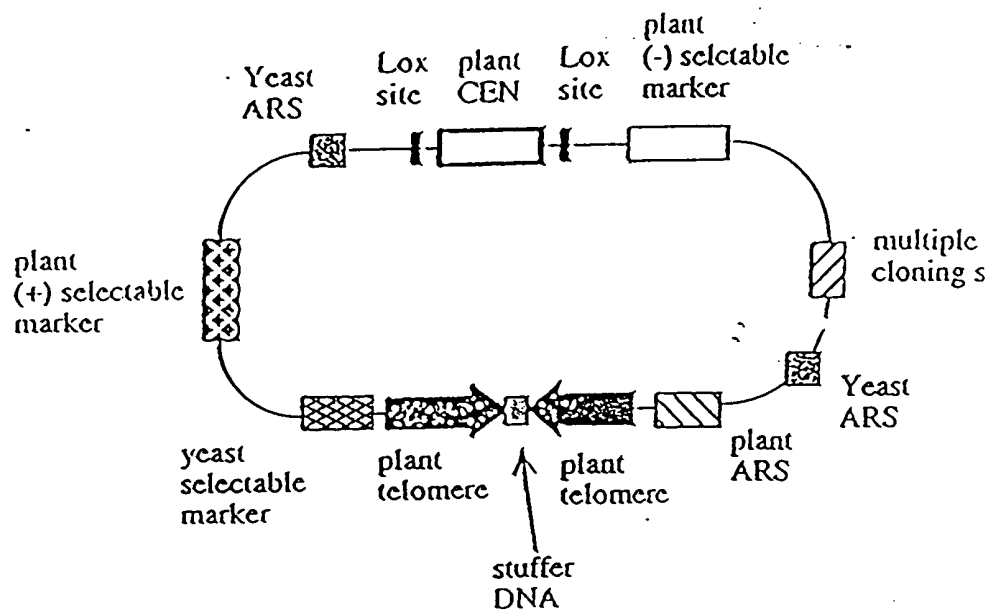


FIG. 7C

000000-0270000

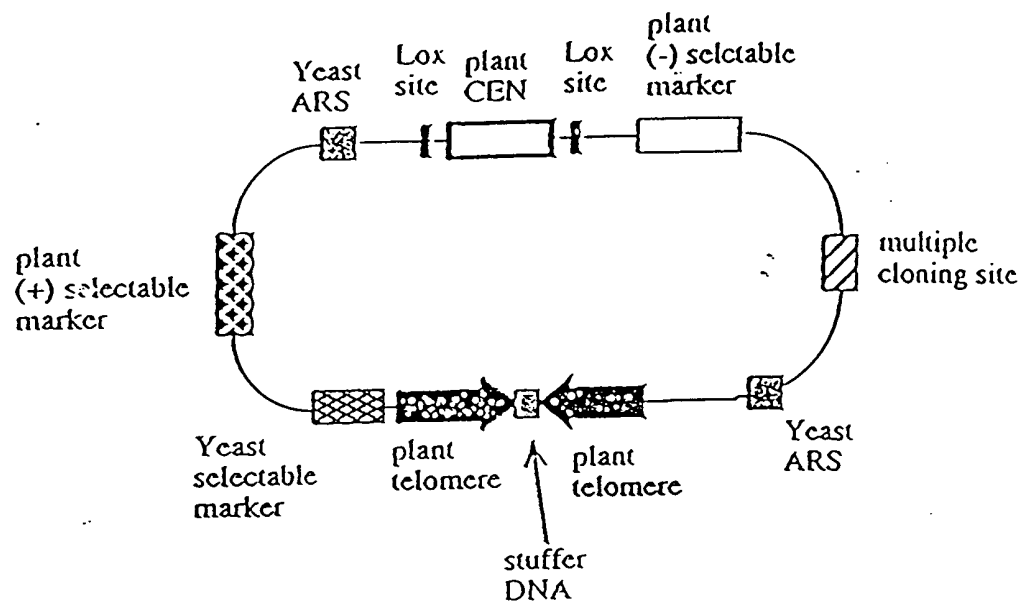


FIG. 7D

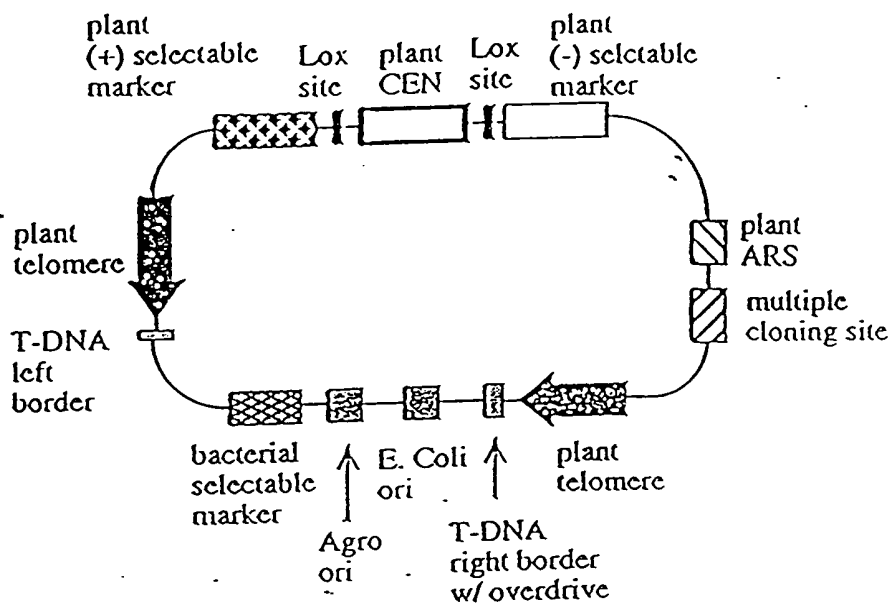


FIG. 7E

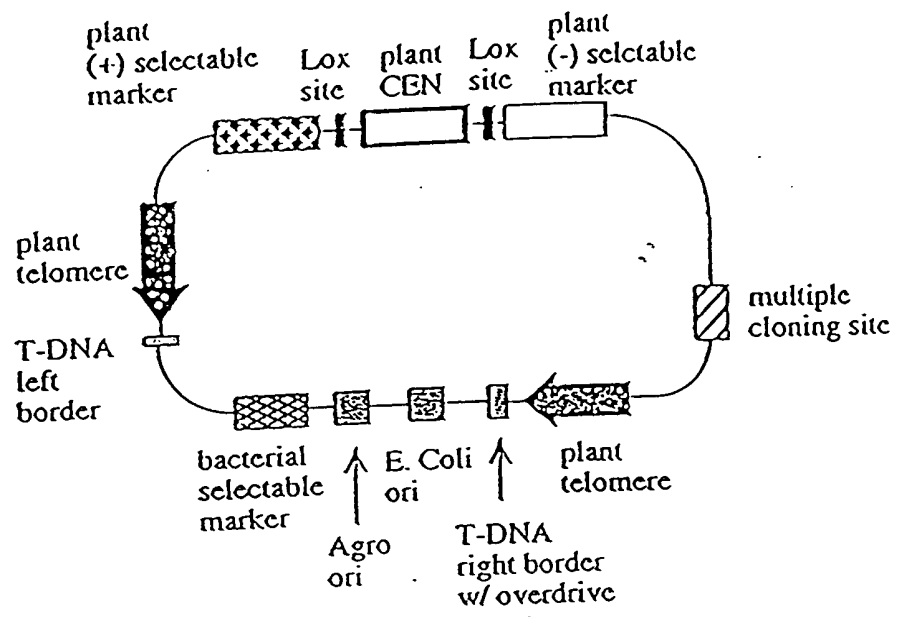


FIG. 7F

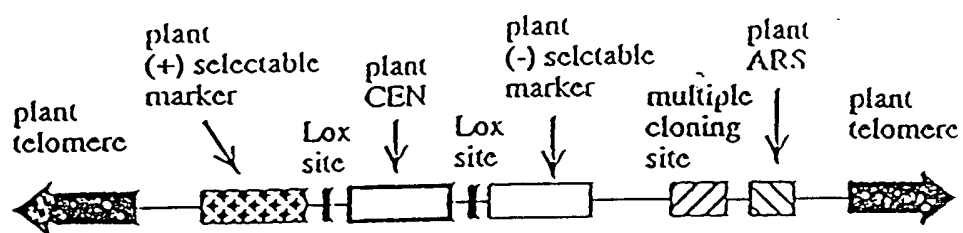


FIG. 7G

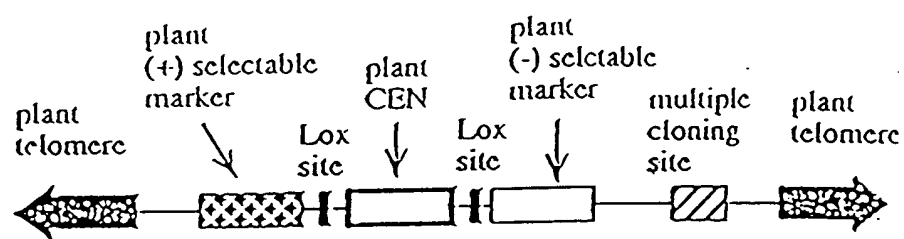


FIG. 7H

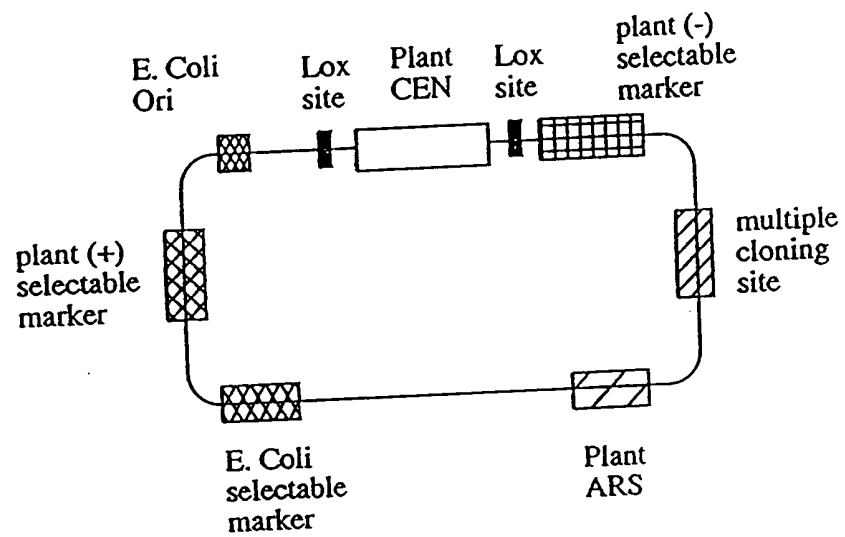


FIG. 7I

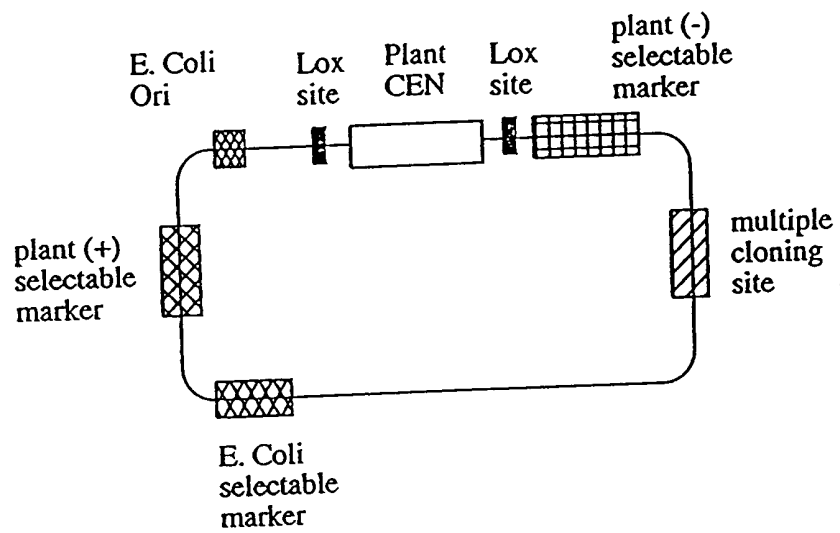


FIG. 7J



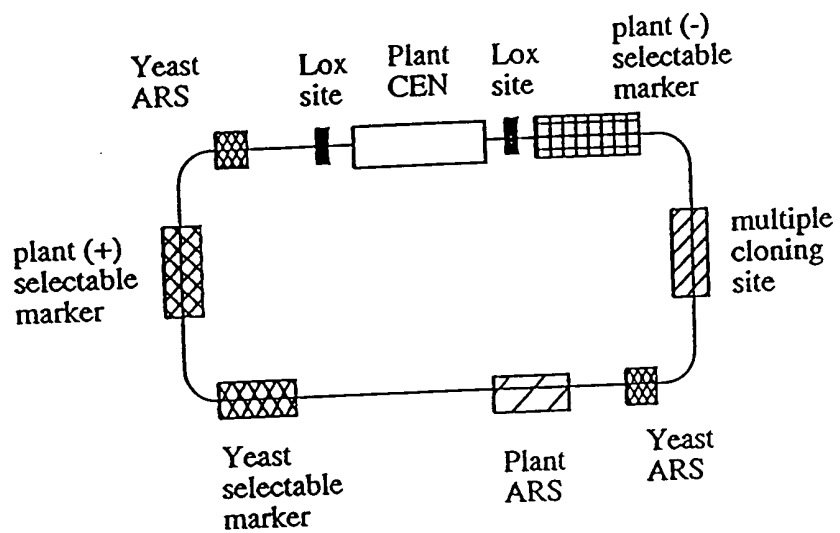


FIG. 7K

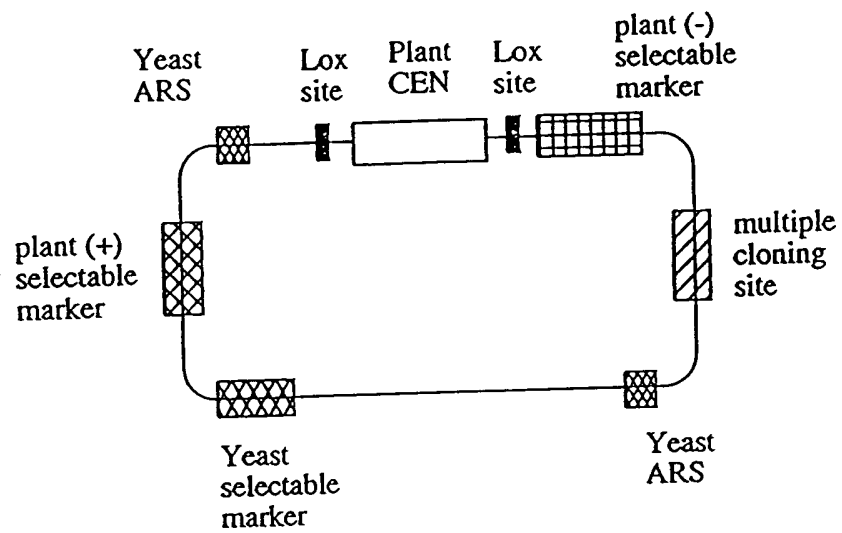


FIG. 7L

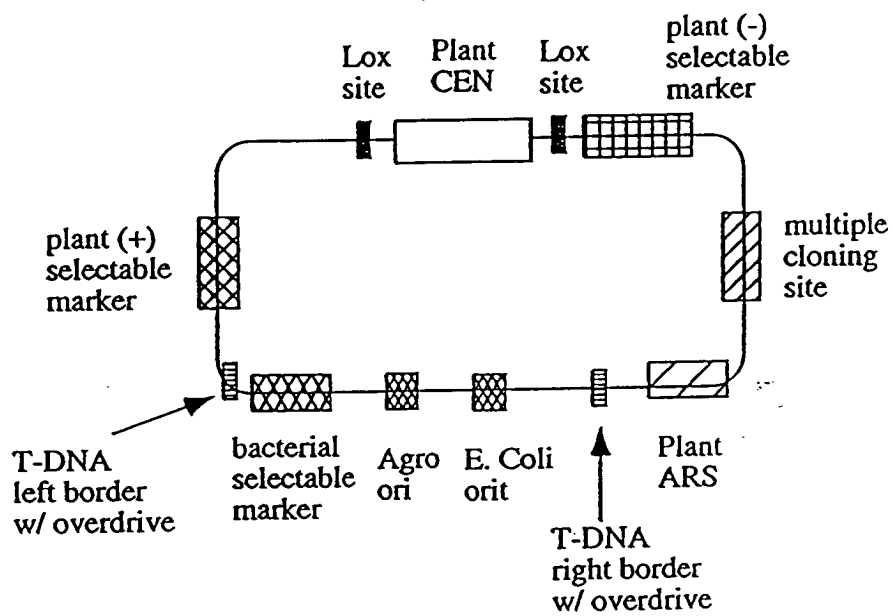


FIG. 7M

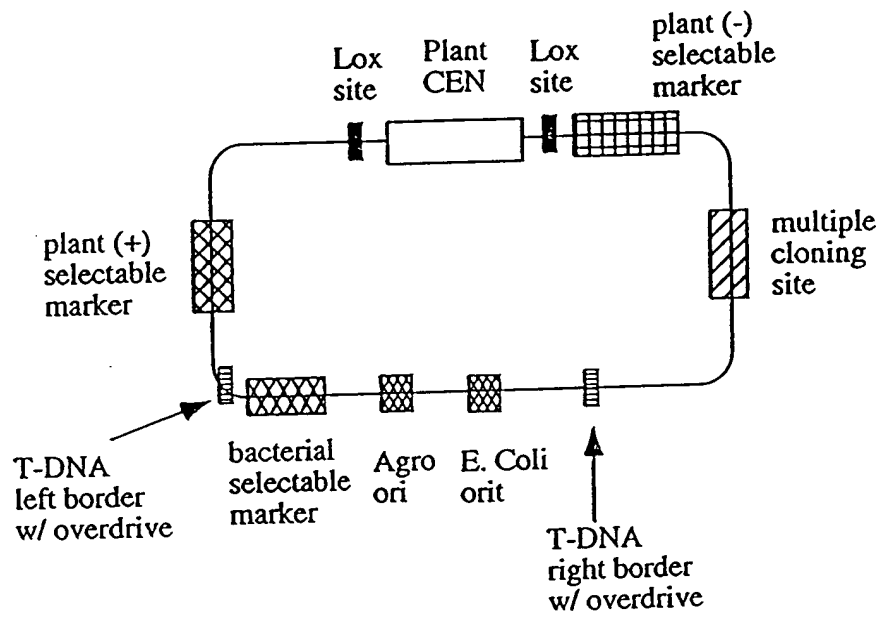
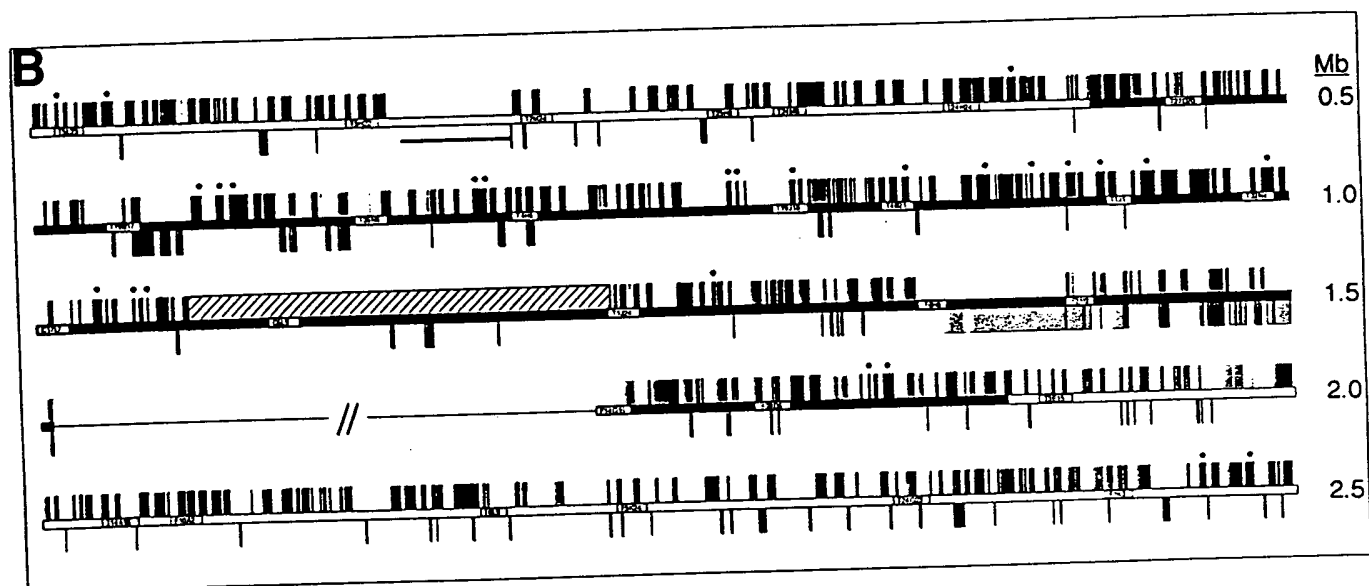
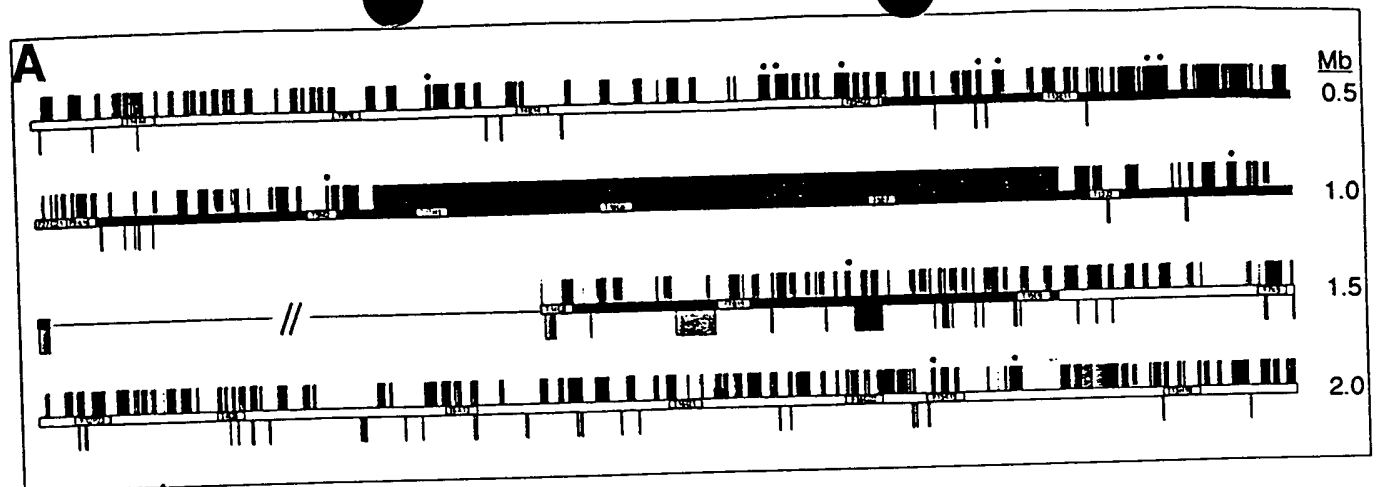


FIG. 7N



■ Predicted genes  
 ■ Pseudogenes  
 ■ Genes encoded by mobile elements  
 ■ Pseudogenes encoded by mobile elements

□ Retroelements  
 ■ Transposons  
 ■ Characterized centromeric repeats  
 ■ 180-bp repeats

■ Mitochondrial DNA insertion  
 ■ Chromosome-specific tandem repeat  
 ▨ Unannotated region  
 ● Expressed genes

FIG. 8A, B

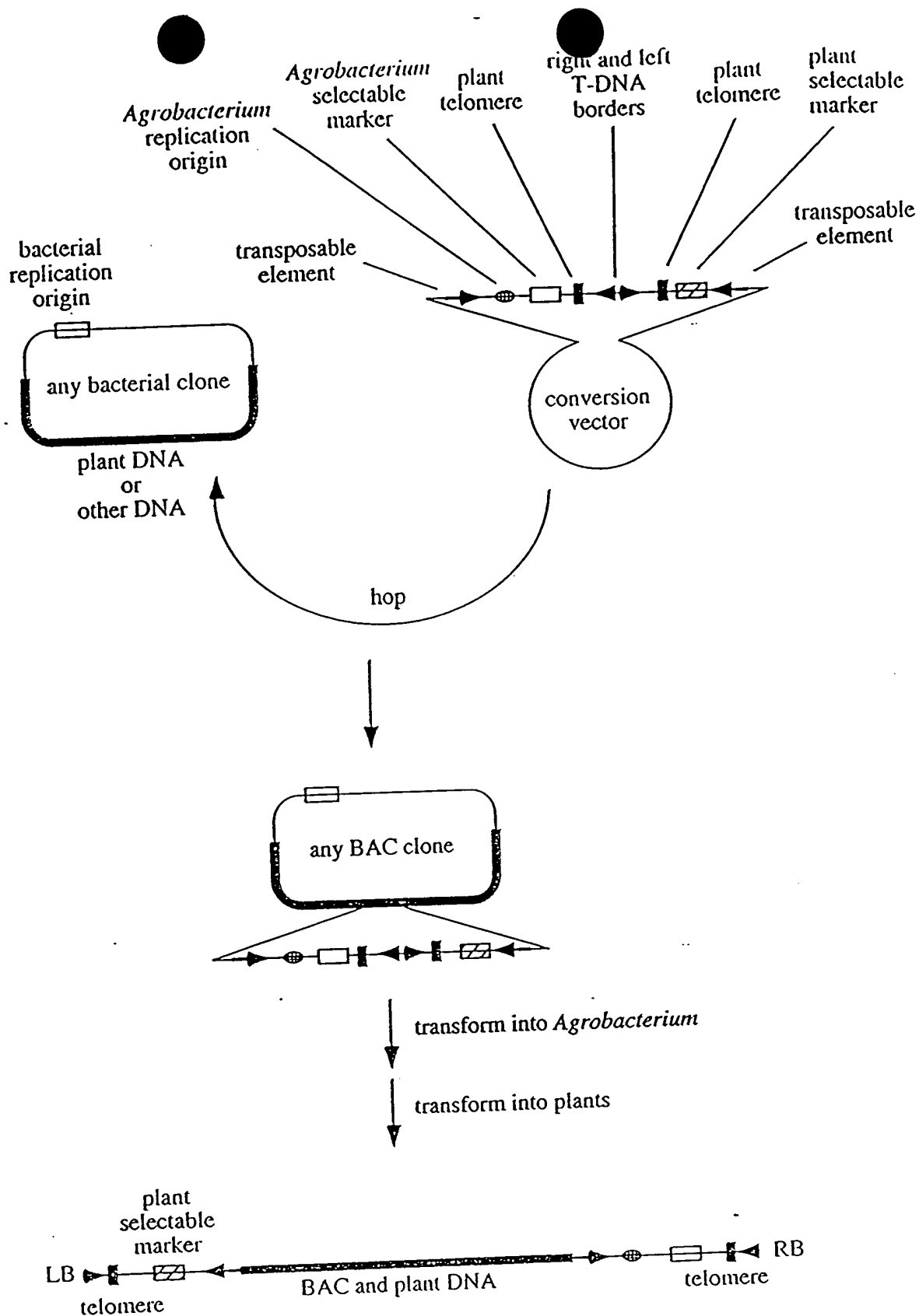
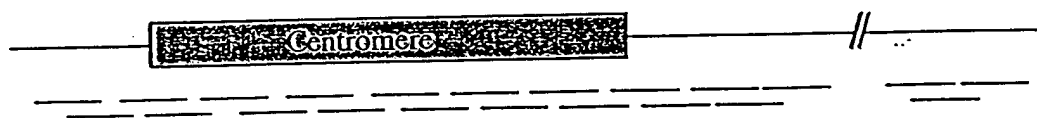
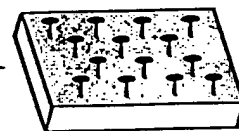


FIG. 9

1)



2)



3)

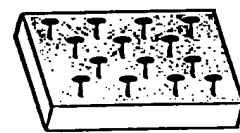
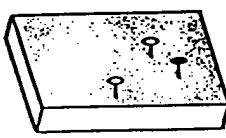
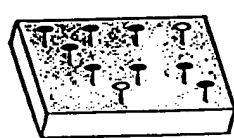
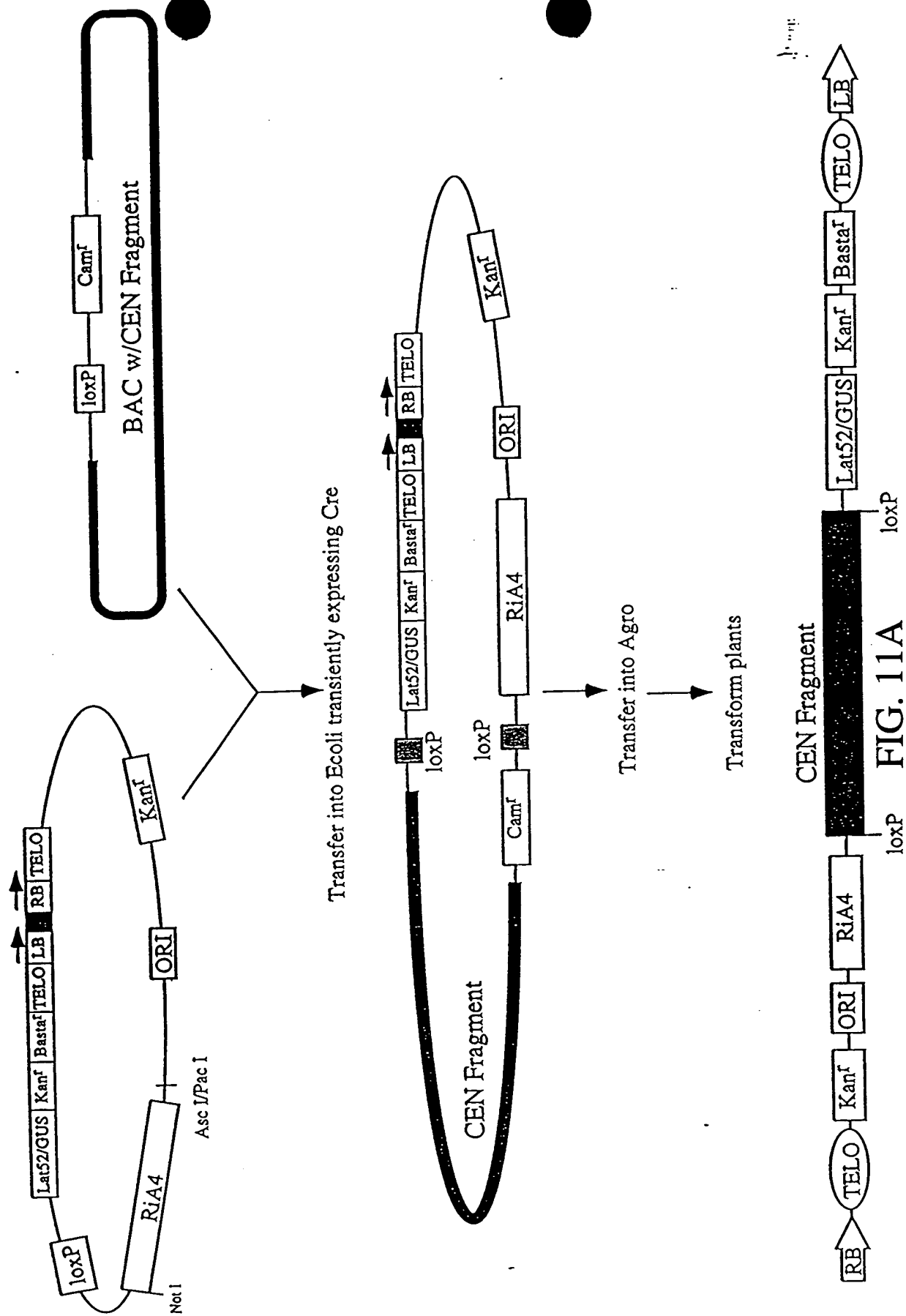


FIG.10





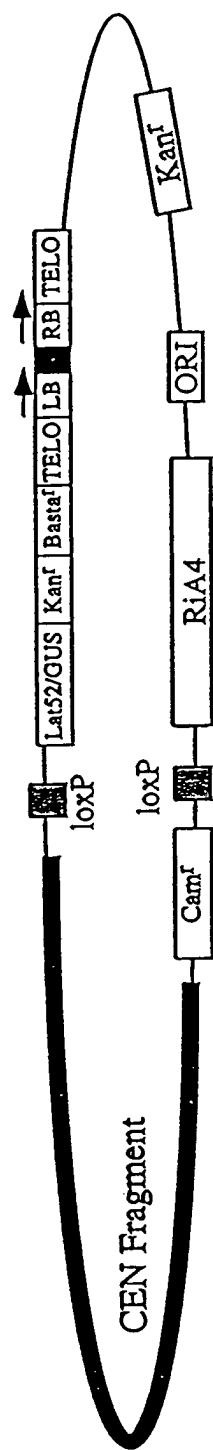


FIG. 11B

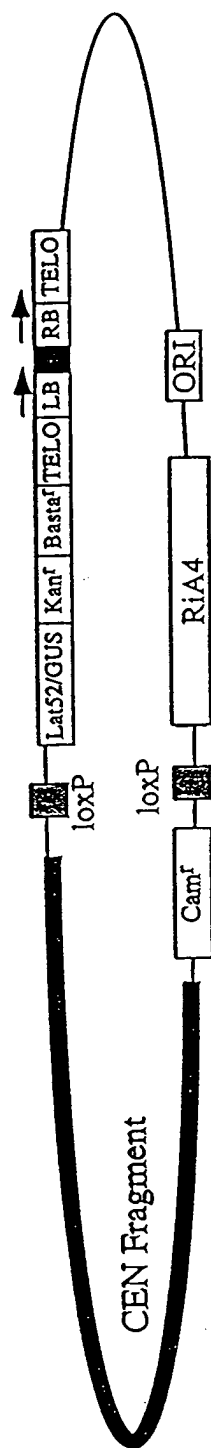


FIG. 11C

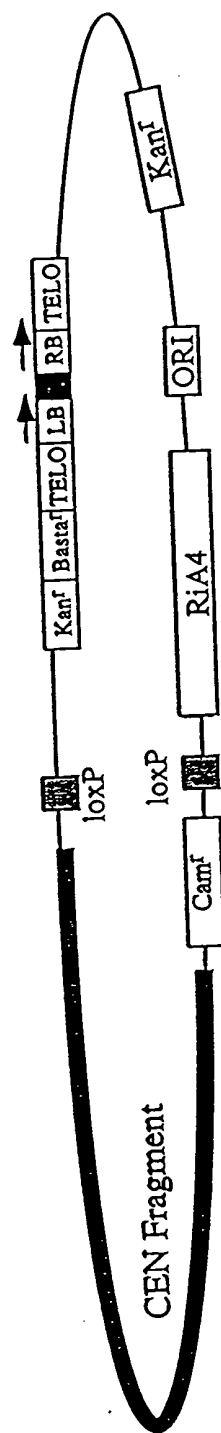
[illegible]

FIG. 11D



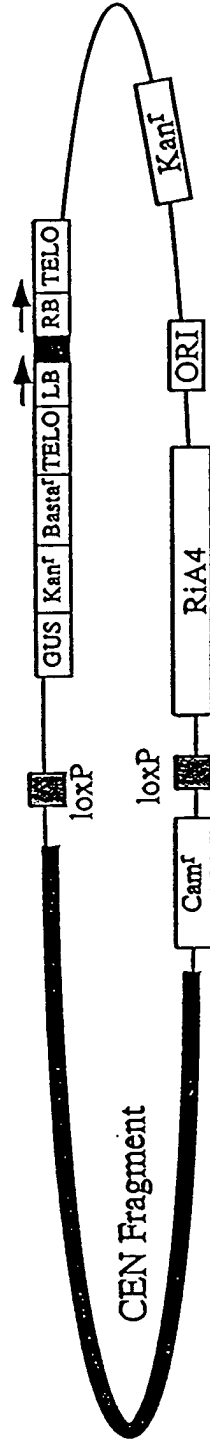
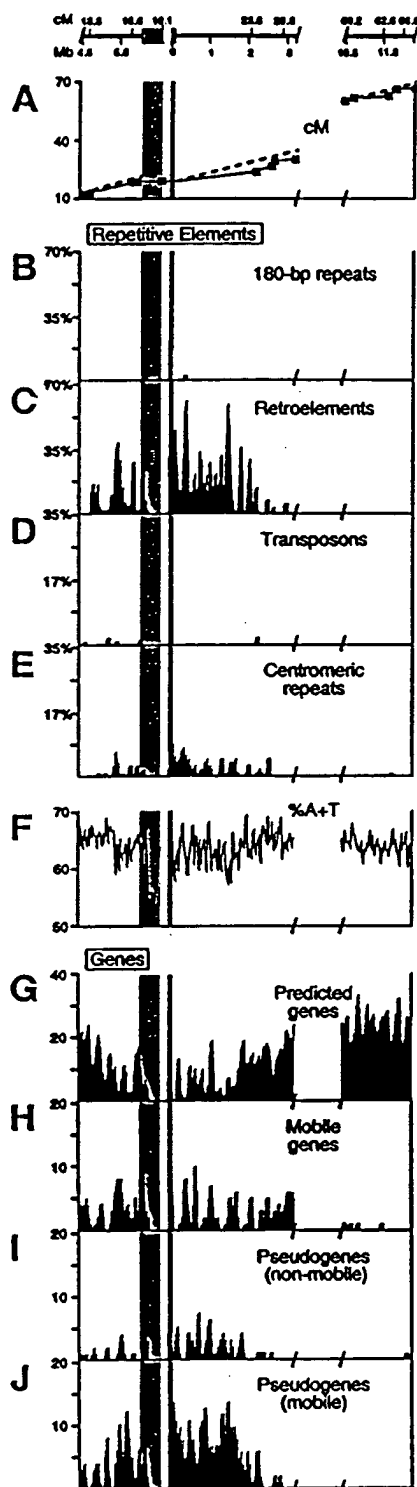
[illegible]

FIG. 11F



## Chromosome 2



## Chromosome 4

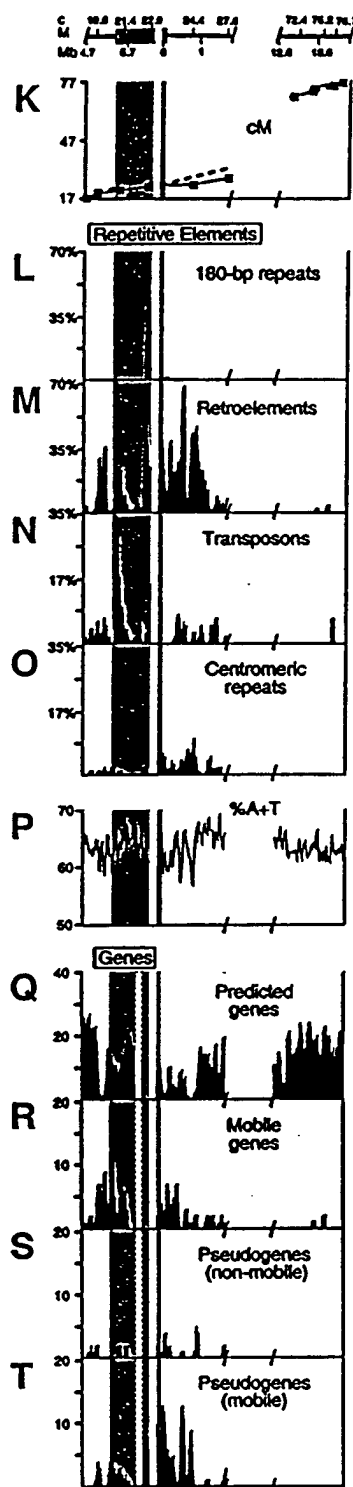


FIG. 12A-T

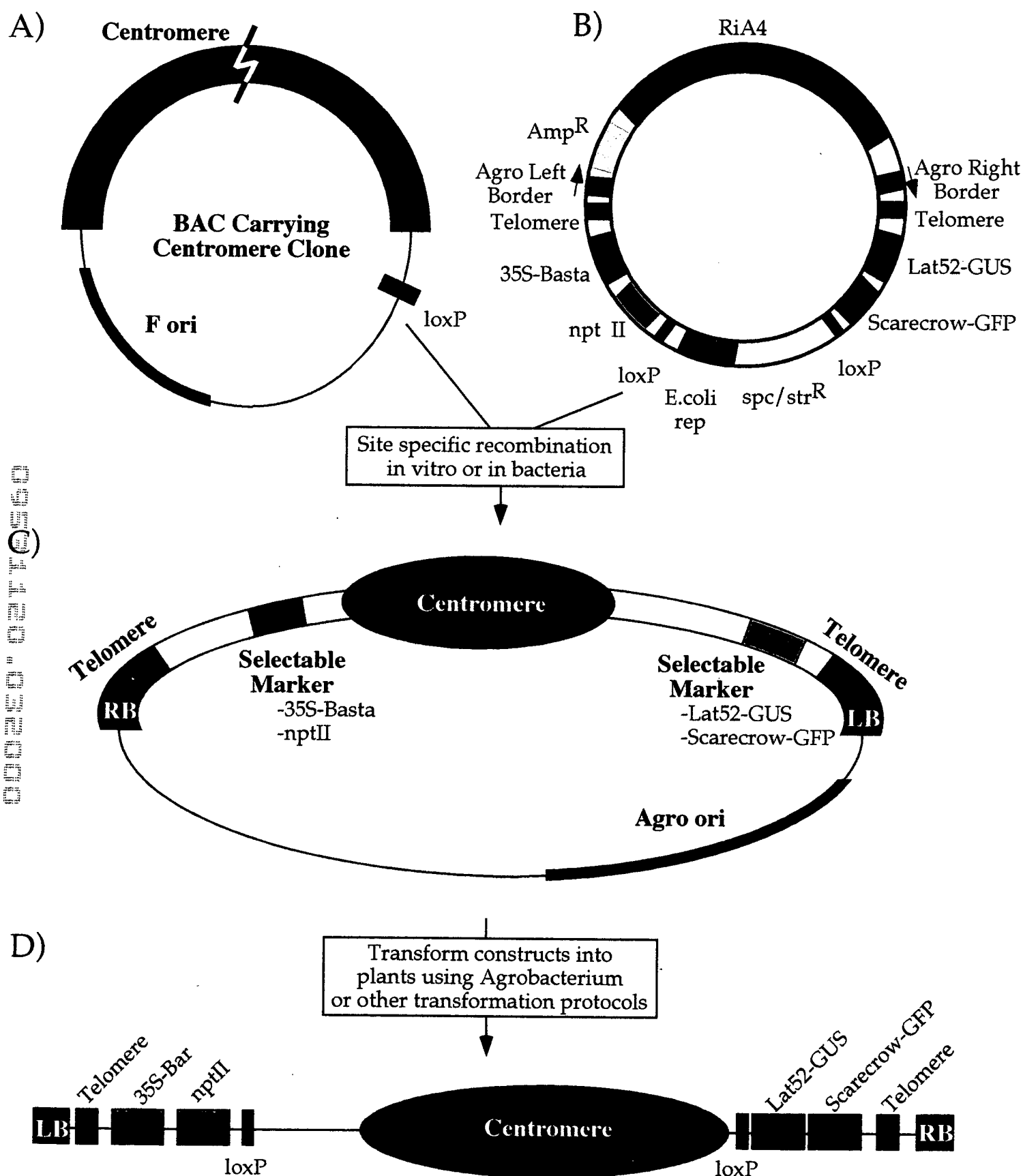


FIG. 13



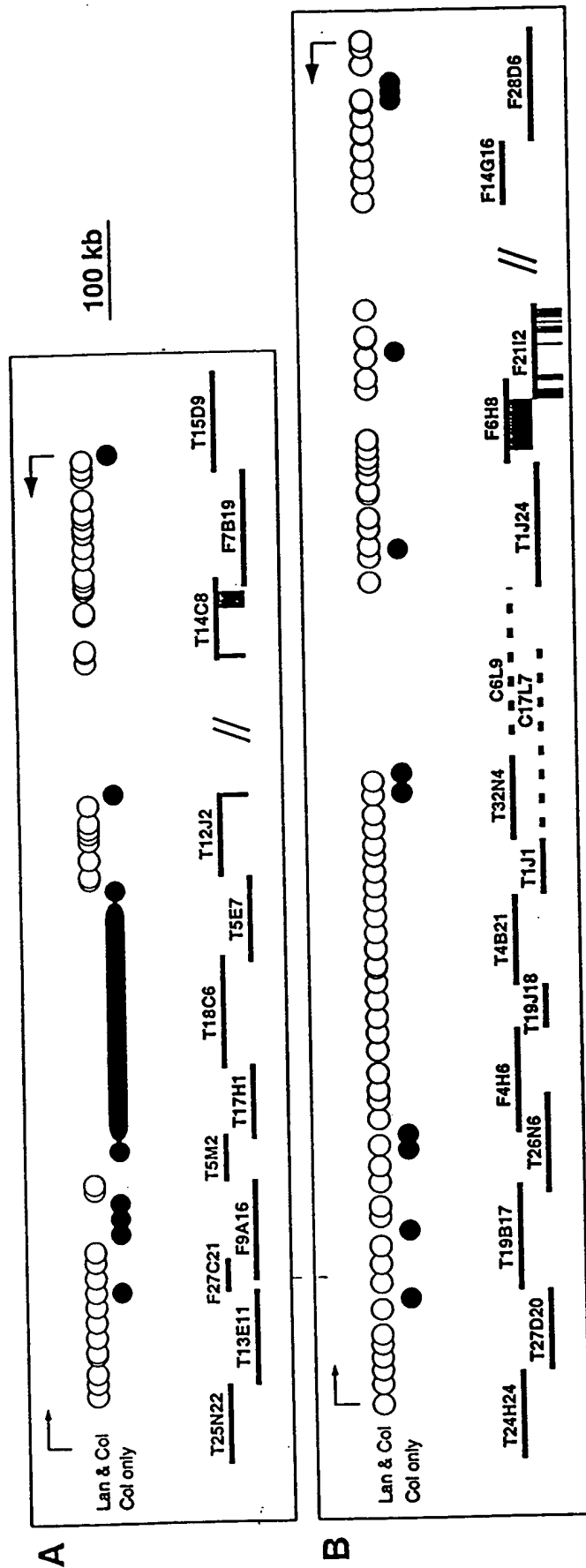


FIG. 14A, B

Sequenced clone	marker name	marker or primer pair	Marker location	marker properties, position	Forward Primer	Reverse Primer
T13E11	T13E11.01	primer	1755-2385	Lan & Col	AGCGCTGGGATGGGT TGGTTG	TTAATGCGGCAATGGCTGA ACAAG
T13E11	T13E11.30	primer	30628-31270	Lan & Col	CAGGTTGCGGTTACTA CATGGGTTTCAG	TATGCATGCGAGTTGGTGG AGGTAAAG
T13E11	T13E11.48	primer	48187-48969	Lan & Col	AAOCCCGGTAAATTA AAOCACAC	CGATACGGGCATGACTCCA G
T13E11	T13E11.63	primer	63886-64530	Lan & Col	ACGGCGGTTGAGAGG AGAAGC	COCCAAACGCAGCAAGAC AATC
T13E11	T13E11.78	primer	78190-78878	Lan & Col	AACAAAACAAATGCC AGGTCAGG	CTCCGGTCGCAAAGTTACA TACAG
T13E11	T13E11.93	primer	93907-94579	Lan & Col	GTTACCCCGGTCTCTGA GATTGAG	TTGGGGAGCAGGATTTGAT GTG
F27C21	F27C21.18	primer	18383-19057	Lan & Col	CAGGCGATTGTCTTTT ATAGGCTGTAAG	TTTTGCTGGAACGGAGGGA GTAC
F27C21	F27C21.02	primer	2570-3293	Lan & Col	ACAAAAGCCGAACCTC GTGGAAG	TGCGTGGTTGATTATTGCT GAAAG
F9A16	F9A16.71	primer	71978-72592	Lan & Col	AATGCTTTTGCGACTC TTTTGAC	TTGTTATTTTGGGTTTGGG TTGG
F9A16	F9A16.53	primer	53253-53921	Dom	CGCAGGCGGCTACTT GTTTG	GATGAATTGATCCGTTGTT TTATGTC
F9A16	F9A16.38	primer	37116-37733	Dom	CAAGGCGGGAAAAACA ACTC	AATTATTTTCAAQGGCTCT TTACC
F9A16	F9A16.22	primer	22166-22889	Dom	GTATTTAGCATTATGT TAGTCGTGTTAGTG	GCTCCTTGCGTATTCTTCAC C
F9A16	F9A16.03		3308-4091	Lan & Col	GATCCAGCAAOCCTTA GCCTCCTTC	GATCCCTCAGTTGAAATC AATCTTC
TSM2	mito border	marker	17685	Dom	AAGGCATCAACGTTT GTGTG	CTACCAGGTAGGTGAAACG AGGGCCGAGCTCGTATGG A
TSE7	TSE7.23	primer	109092-109688	Lan & Col	ATTATTGGCTGCTGCA CTTCTGTCAC	CGGTGCGCCTCGTTCTGTA TCTG
TSE7	TSE7.73	primer	73460-74120	Lan & Col	TCTCGGGAGTAGGGG CTTTGTTCTG	TCGCCAATGAAAGAGGGT AG
TSE7	TSE7.58	primer	57942-58583	Lan & Col	AGGGGGCTTACAAGA ATGAAC	CTAAATCCCGAAAAACCAA AOCAC
TSE7	TSE7.40	primer	40913-41537	Lan & Col	GTAGCCGGCTCAGTCT CATAACATC	TTGCTTAACCTATACCCGAC TAATGCAAGGGTCTGTAA TGGAAATG
TSE7	mito border	marker	13507	Dom	OGAATTOCTTCAGATG ATGC	AGTTTGCTTCGTGCTTGCT TATTATG
TSE7	TSE7.02	primer	2919-3585	Lan & Col	AAATGGCAGAAGCAG AAGCAGGAATAG	AGOGCAATCAAGCTATOCC TACATA
T12J2	T12J2.01	primer	1373-1998	Lan & Col	GTGTGGCCTCGTGTGA CCTGAC	CTCAGAATCCCAAAACAGA GCCACAC
T12J2	T12J2.19	primer	19369-20038	Lan & Col	CTGGCCATCCCTTAT CGGTTTAC	AGACGGCTAGTGATTGGT GG
T12J2	T12J2.37	primer	37750-38359	Lan & Col	AOCTCCOCCACACTTA AACGACACTG	ATGGCGCAATCAAAAGCA ATCC
T12J2	ATEDA59	marker	50592	Lan & Col	TGAATGCTATGAAAG ATGGATGAAAC	
T12J2	T12J2.56	primer	56455-57533	Lan & Col	AATCGGGCTCGGTTGT GTAGAAAC	

FIG. 15A

T12J2	T12J2.73	primer	73911-74556	Lan & Col	ACTTGTAGGCCCTTTG ATGTTCTG	TGCTTTGTGTGCTTTGATT ATTCTATTAG
T14C8	T14C8.1	primer	8862-9544	Lan & Col	ACGAACCCGACGAOC ACTG	ACGCCCTTGATTCCATTCT TACC
T14C8	T14C8.6	primer	10837-11485	Lan & Col	GACGGTTGAAAGAA AGCACAG	AGAAGATGATGGCAAGT ACGAAGAG
T14C8	T14C8.7	primer	45334-46016	Lan & Col	CGACCATTCACGAOC ATAC	AAGGCCATTCAAAAAGATT AGGAGAG
T14C8	T14C8.3	primer	46672-47283	Lan & Col	ATAGOGTCAGOOCTCA TTTCAG	ACCCCTTTTGCTTGTATTTTC GTG
T14C8	T14C8.8	primer	48833-49538	Lan & Col	CAATGGGCGGAGGG GG	TGTGGCAAGTCATGGGTAA GGAG
T14C8	T14C8.9	primer	71115-71878	Lan & Col	GGTGGGGGAGAACGA TGAC	COGGTTTCTGCGATATTTG GTTAG
T14C8	T14C8.5	primer	73841-74456	Lan & Col	TTCCGCGOCCAAAAG GTG	AGAGTCAAGCCAAGCAAT AACAGG
T14C8	T14C8.4	primer	75442-76122	Lan & Col	AAGAAGGCTGGAAAT TGGTTGAG	GAGOGGAAGTAGATGCAG AATGTC
F7B19	F7B19.1	primer	108-757	Lan & Col	AAGGTCCGGCGGTGG TGAG	GGGTGAGTGATGTGATTG AGTG
F7B19	F7B19.12	primer	13831	Lan & Col	TAAOGTCATCAGOGGT AGGAAAC	TTACAAGCGAGAAAAGAT GAGAAGC
F7B19	F7B19.27	primer	27033	Lan & Col	CCCCGCTGAACTGACT GACTACGAG	TCCGCCAACCGATAAGATA CGAC
F7B19	F7B19.2	primer	30189-30791	Lan & Col	GCTCGTTGCGGTTGCT GTTC	CCGCGGTGGCTGCTTTTAG
F7B19	F7B19.43	primer	43142	Lan & Col	CAGGAAAAGTGGTTG GATTGATG	TGCTCTTCCGGAAGTGGT G
F7B19	F7B19.3	primer	55446-56209	Lan & Col	ATTTGTTGCCATCGT CCTTC	TTATCAATGTATTTCCCTG TGTATC
F7B19	F7B19.59	primer	59771	Lan & Col	TTGAAGAAATGCGCAT AGCOGTAG	TCTGGGATGAAGAGAAAAG AGAACTGTC
F7B19	F7B19.4	primer	70859-71492	Lan & Col	AAAAACCGTGAGACC CATAAATG	TOCAAATCGCGAAAAGTGAC AG
F7B19	F7B19.77	primer	77633	Lan & Col	ATAACCGAAGAAGCC GAGAAATC	ATCCGGAGACGAAAATGA ACTTAG
F7B19	F7B19.95	primer	95351	Lan & Col	TCGATTGCCAGCAGA GTCAGAAC	TGGGGCTTGTAAAGGAGG AGTAAC
F7B19	F7B19.5	primer	98977-99658	Dom?	AGATGGGGTGCTATT TTGTATG	COGGTGGAGTGATTGTCTG TAG
F7B19	F7B19.6	primer	112337-113039	Lan & Col	AGGGGAAAACTTTGA GAGCAC	TATCGGGTTTGAAGAGGG AAGG
T15D9	T15D9.3	primer	2985	Lan & Col	AGCGTCGGGGTGTG GAG	TOCTGGCAAATTGTCTTCT OGTTG
T15D9	T15D9.1	primer	12299-12914	Lan & Col	GCTCCGCCATCTOCT GTC	GAAGTCCATGCOCTATCC TG
T15D9	T15D9.19	MARKER	18991	LAST RECOMBINANT Col	GAGOOCTTCTATGAGC CTACCTGTTT	AGAGATCCOCTGTTACTAA AGCCTATTCTG
T15D9	T15D9.2	primer	37103-37728	Lan & Col	ATGGGGTAATCGAAT AGTGTGGTC	COCTAGGGCATCCGTTTTT ATCTC
T15D9	T15D9.3a	primer	52189-52811	Col	CGGAGAAAGTTGGGG GTTAGTTG	GAGAGGTTTGGGTTGGGCT TGTAAG
T15D9	T15D9.55	primer	55134	Lan & Col	GCTGCGAACCCACAC TTTGCTC	ATGTTATCGTCGCGCGTT TTATG

FIG. 15A (cont'd)

T15D9	T15D9.73	primer	72993	Lan & Col	AACCGGTTGATAGTA GACGAGATG	TCCGGGGTTGCGATAGAG
T15D9	T15D9.4	primer	73930-74552	Lan & Col	GTAAGACGGAGCCCC TGAAG	AACATGTTAAAGCCAATAC CCTCTC
T15D9	T15D9.5	primer	86724-87494	Lan & Col	TCGGAAAGGCTAGAG ATGGGTAACTG	ATTGGACTATATGGGOCTC GTGAC
T15D9	T15D9.93	primer	93763	Lan & Col	TTTGCGGATATTCTAA AGGTGATG	TACTATTGCGCTGCTGTTG AGG
F7K9	F7K9.3	primer	21647-22276	Lan & Col	GGATGCAATGCCCGTT ATGATG	TCGAGGGAGGATGCTGAGT ATG
F7K9	F7K9.2	primer	12216-12843	Lan & Col	CAAAGCGGCATCTC CTTC	GCAATTCATAOCCACAT CTG
F7K9	F7K9.1	primer	3590-4226	Lan & Col	ACTATGCGTGGGTGG CTTTGTG	CAGGGGCATGCGGAATCTC
F12P23	F12P23.3	primer	61772-62430	Lan & Col	AGCGAGGTTATCTATC AGGGTTG	GATTAGGTCCGCTTCTTCC AGTTAG
F12P23	F12P23.5	primer	44870-45511	Lan & Col	CTTCATTTGCATCATC GTTATTAG	GGTGTGAAGTCTGAGGCTC CC
F12P23	F12P23.4	primer	40880-41507	Lan & Col	TACCCATGCOCTTGACT GCTG	TTCTGAAOGTGTGTGTCT ATTTG
F12P23	F12P23.2	primer	22431-23107	Lan & Col	TOGTGAACTAATTGG TGGGAAC	TOGGGAAGAGTGCCTAAG AG
F12P23	F12P23.1	primer	3352-4026	Lan & Col	ACAATGGCAACAATG GGCTGATAG	TTCGGGTCGTTGTTCCTAA AG
T4D8	T4D8.5	primer	81647-82250	Lan & Col	CTCGGTCTGGTAATGT GAAGTGGT	ATACGTCCGGGAGTTGAG
T4D8	T4D8.3	primer	47146-47883	Lan & Col	GCCCGTCTGCCATCTC TATC	CGCTCCTTCACAGCCACA A
T4D8	T4D8.2	primer	21848-22453	Lan & Col	AAACTCGCCGCTCGT GTAAC	AGGATAAAGCCATAGCTTG ACCAG
T4D8	T4D8.1	primer	18915-19589	Lan & Col	CTCGTCTCATCCAAAT CCGTCC	CAATATAACCCGTCOCGT GAAG

FIG. 15A (cont'd)

Sequenced clone	marker name	marker or primer pair	Marker location	marker properties, position	Forward Primer	Reverse primer
T5H22	T5H22.00	primer	248-2654	Lan & Col SSLP	TTTGTACCCCTTTGGC TCGGACTGG	AAGGGGACACGCAC AAAAACGCTCTC
T5H22	T5H22.21	primer	21508-22868	Col Dom	GTCGCCCTTGGTCTAG TAAATGG	CTGTTCTGTCGCTTC TGCTG
T5H22	T5H22.41.3	primer	35072-35719	Lan & Col	TTGCGAGAAACTTGG AGGAACATC	TTAGAAAAGCATOG GGCAOCAAAC
T5H22	T5H22.41.4	primer	64404-65591	Col Dom	CTCCCTGCGATATTTTG TGACTG	GTTGCCAAAGTTCTC TAOGATTC
T5H22	T5H22.65	primer	65036-66470	Lan & Col	TCAACCTAAGGCAAAT TTTCTAAG	TTTAATGAAGGCOO AACAO
T7M24	T7M24.04	primer	4816-8214	Lan & Col	GTGCATGGCCTAAACA ACAG	GTTCTCATAACGGGT CAGTCC
T7M24	T7M24.46	primer	46240-47868	Col Dom	ATGTTATGTTTAOGTC GGGTTGTGTTG	TCTGGCTCCGGATG CTATTTGTATTTTC
T25H8	T25H8.01	primer	1889-2953	Lan & Col	TGACGAAGAAGGGGG AAAAGTTG	TGACGTGGTGAAAG TAGGCTGTGAAG
T25H8	T25H8.17	primer	16846-17990	Col dom	ACTAAAGCCCCAACTG AAGAGGAAG	AAACCGCCACTACC GCCATAA
T25H8	T25H8.22.9	primer	22482-25074	Ler & Col	AATCGATCCGTCTTTC AOCAAC	CTTCTGCGACCGTT CTTC
T24M8	T24M8.65	primer	65402-66309	Lan & Col	CGGCATGACCAAAACC TAAACTC	AGGGGAAAAGATGAA AGATGAAATAAG
T24M8	T24M8.54	primer	53851-54655	Col Dom	TAATAAAACCGCTCAGC CAOACTCTAAG	GGGCTGCTCCAATCT CGCTACAC
T24M8	T24M8.43	primer	42439-43274	Lan & Col	CTTAAATTGCOOCTGA TGATGGTTG	GATGGAGTCGGCAA AAGATAGGATG
T24M8	T24M8.22	primer	22640-23386	Lan & Col	ACGAGAAGCGAAAAC CGAAGATAG	CGAACCTAAACCAA AOCTAAACTGAATC
T24M8	T24M8.09	primer	5961-8374	Lan & Col	GAGTCTGCGGGTAATT TOCTCTCG	ATTCTTGGGTGTCC TGGTGTAAAC
T24H24	T24H24.82	primer	82814-82890	Ler & Col	AGACAGCCGGAAGCA ATGGTGG	TCTCGCTGCTGGACA TACTCACTCAC
T24H24	T24H24.66	primer	66082-66765	Ler & Col	GTTGAAGGACCGGAGT TGTTAGAC	TGTGGATCGGTTATT GGAGGG
T24H24	T24H24.48	primer	47836-48636	Ler & Col	CCCCAGCCATTGAG TGAGTAG	AGCGGCGCCTTGA GAGTATC
T24H24	T24H24.11	primer	11212-11867	Ler & Col	GGCGGCGTAGTTATGT TGATTGAG	TAOCAAGGCCCCGA GATACTAAC
T27D20	T27D20.77	primer	77681-78420	Lan & Col	TCGCGCAATGGGACA CG	CGGGGAGGCTGGG AATC
T27D20	T27D20.64	primer	64198-66686	Ler & Col	AOCTGCGATAGAGTTG TGAGTTC	CTGCCTTTGCCGATA ATAGTC
T27D20	T27D20.51	primer	51084-51783	Lan & Col	COGCGGCTTATGCTG AG	GAAGAGAAATGCCC TGTGAGTCC
T27D20	T27D20.41	primer	41203-42770	Lan & Col	GTGATTCGAGGACAT TGAGTG	TACATTTTTCAGCC ATTTTGTG
T27D20	T27D20.06	primer	6107-6887	Col Dom	TCGAATGGCTGAAAGA AAAGAATAAGAG	AAAACGGGTGGCGG AGAATG
T19B17	T19B17.96	primer	96402-97060	Lan & Col	CGTCTCCCGTGAGGTG GC	ATTTTCATAATTATT TGGCGTGTGC
T19B17	T19B17.77	primer	77318-78093	Lan & Col	CGAACCCCATCCGAAC TAAC	TGCCACAACAACT CCACTATG

FIG. 15B

T19B17	T19B17.59	primer	59092-59808	Lan & Col	AGCGGTCAATGTTCTT CAATGTCTAG	TATCGOGGCGGAGT CAGGAG
T19B17	T19B17.44	primer	44057-44788	Col Dom	CTGCCCCGAACAOCTT TCAAC	TTGCGGATTCTGTTAT GCTGTTCTC
T19B17	T19B17.30	primer	30680-31352	Lan & Col	ATCGCCGCGCTCTTCTT CAG	CAGGTTTCAGCCCGTT CAACTATAATC
T19B17	T19B17.11	primer	11260-12044	Lan & Col	TCATTTGCGTCTAGAG GTGGAGTGC	GGGGTAGAAAGAAG CGAGAGGGATAG
T26N6	T26N6.12	primer	12724-13462	Lan & Col	CACGGCATCATTCATC AAACGAG	GTAGGATCCGGCTG AATAGTGGTGG
T26N6	T26N6.27	primer	27839-28536	Lan & Col	TCTTCOGATGACGACA ACGACAC	ATTCTGCTGCTGCTG ATTOCTG
T26N6	T26N6.42	primer	43996-44639	Col only	GACGGCCTTTTCATTCT CACACAG	TTTCATATTTGCTCA TCTAACCCCTTC
T26N6	T26N6.59	primer	59333-59938	Col only	GCTCGAACCCCTACAC CTCCAC	AGTCGCCGTAGCAA ATGAAACC
T26N6	T26N6.74	primer	74460-75083	Lan & Col	ATGGGGCCCTTTGACT ACTGAG	TCCGGAGACGATTTT GATGAC
T26N6	T26N6.93	primer	93352-93986	Lan & Col	TTCCCGCATGCATTAG TTCTTGTG	TTGCCATCATCTTTC TGTGTTTGTCTATC
F4H6	F4H6.44	primer	42567-43173	Lan & Col	GCAGACGCGAGGACA CAGACAG	CAGCCTAAGCCCAT TTGTTTTGAAG
F4H6	F4H6.60	primer	60209-60835	Lan & Col	GTTCACACGCTAGCAA GGTCTG	AGGGGCCAACATGC ACTACAAG
F4H6	F4H6.82	primer	82859-83642	Lan & Col	ACAAATCAGAGGCOCA AAGTCAATG	TGGGCGGAATAACA GCAAGTCC
F4H6	F4H6.100	primer	100331-101001	Lan & Col	ATCCAAACGCCAAAT GTCAAC	TTAAGTGCGGTGG GTTCAAATAC
T19J18	T19J18.12	primer	12781-13435	Lan & Col	ATGCCATAAAGAAAG CCCAGTC	CGCCTATCTTCGGTG TCTOGTC
T19J18	T19J18.27	primer	28093-29954	Lan & Col	CAGCGCTGTACAGTGG TCAAATG	CGTGGGTCAAGTGG GTCAGG
T4B21	T19J18.71	primer	6380-7009	Lan & Col	CATTACTTACCCGCTTC CGTCTTTATC	AATGTTAGTGCGAG TTTATGGTTGTGTC
T4B21	T19J18.42	primer	20045-20648	Lan & Col	TGTCGCTTACTCCATT CGTTCAAC	CGGCCGCTTCATGT ATCTATCTC
T4B21	T4B21.20	primer	21757-22522	SSLP polymorphic	AATAGGCTTTCCGGT GCTTCTC	AATTGATTTTGGGGT TTCTCTGTTT
T4B21	T4B21.35	primer	37346-38074	Lan & Col	GTGAAAGGAGCAGCA GGAACAGTG	ATTTATAGGCCAAT GAOCCAATCG
T4B21	T19J18.57	primer	38498-39157	Lan & Col	CTATCAAAOCGAGTCA AAGAAAGG	AGAAGGTGAGGCAA AGAGATTAGTG
T4B21	T4B21.52	primer	54320-55077	Lan & Col	ATAGACAAAATTGGCA ACACATAACC	CAOGCAGCTTTCAT CTCCTTTC
T4B21	T4B21.68	primer	69927-70543	Lan & Col	TTGTCATTGGCGCTGC TCTATC	GCTTTCCCAOCCAAT ATCCTTTC
T4B21	T4B21.83	primer	85772-86299	Lan & Col	AAGCCCGGATTGTGGT TC	CGCTACGCATGGGT CTATTG
TIJ1	TIJ1.08	primer	8862-9483	Lan & Col	TAGAGCGGTAACCTAA CGAATGTGC	ATGTGGGGCCAAAT AAATCAAAAC
TIJ1	TIJ1.23	primer	23155-23843	Lan & Col	TGGAGGGCTTGCATGT GAGAGTG	CAGAGCCGGATGAG AAAACAGAGC
TIJ1	TI5D16	marker	38027	CAPS	AATCAATTGGTTTCTA CTTTTATG	AACTCCGACTGAAG GTATAGC
TIJ1	TIJ1.39	primer	39177-40174	Lan & Col	ACGGGCTCATTGGCTA AAAAGTTC	TTAAGGGTTGGGGT TCATCTGTCAC

FIG. 15B (cont'd)

T1J1	T1J1.50	primer	50248-50937	Lan & Col	AAGTCTGGGAAGAGG ATGAGAAAOCC	ATAAAGTACGCCGC CCATCAATAG
T32N4	T32N4.09	primer	10175-11108	Lan & Col	GGCAGATACGGCGGGT OCATAC	TCTGAATGCGATCTC CTCGTGTAAG
T32N4	T32N4.24	primer	24917-25724	Lan & Col	CGTGGGAGCTGCCGTA GAAG	GCGTTGATGATGA AAATAGGGTG
T32N4	T32N4.45	primer	45840-46451	Lan & Col	CGCCCCCTCAGGTTAG TOC	GTITGCTCCOCTOCC AGTG
T32N4	T32N4.46	primer	46637-47558	Col Dom	CTGGCGTAOGAGAGTG CTTG TG	ATGACCOCTGTGCTTT TGCTOCTC
T32N4	T32N4.60	primer	60777-61645	Lan & Col	CTCTCGGCGTTGCTTCT GG	GCOCGGCTGGTGCT ATTC
T32N4	T32N4.66	primer	66497-67374	Col Dom	AAAGAAGCGAAACAA CATAOCCATAG	GGAGACAAAGAAAT CGGCAGAGTAG
T1J24	T1J24.114	primer	114825-115648	Lan & Col	CATGCCCGAATTACGA CACCTC	GCGCCAAATCTCTA AACAACACTC
T1J24	T1J24.90	primer	90665-91646	Lan & Col	AATGAATGGGACGAA AAOCAAAC	GCATCCCCGGTACT GGTGAG
T1J24	T1J24.81	primer	80921-81638	Col Dom	AATCGOGACTTTGOCT TOC	TAACTACTATOOCA CCOCCACTACC
T1J24	T1J24.79	primer	79569-80351	Lan & Col	GTGTATCGGGGGCCAT CTCAG	GCTCAACATCGCOG CAATCT
T1J24	T1J24.61	primer	60440-61245	Lan & Col	CCCAAAGTATAAGCGC OCACCTA	TAAGCGOCTCACTTC ACCATTG
T1J24	T1J24.51	primer	51061-51798	Lan & Col	TOCGGAAGGAGOCACA TAAG	TOOCCAGAOCTCTOG TTGAC
T1J24	T1J24.27	primer	27855-28895	Lan & Col	GGCCGGGAGTTGGTCA TAAGG	TCAATTTCAATCOCC GCTGGTC
T1J24	T1J24.23	primer	23943-24800	Lan & Col	TGGTCGGGCATATTGT TTTTCTTG TG	CGGCGCTGTCCCTG GTTC
T1J24	T1J24.01	primer	683-1663	Lan & Col	TTCCCCAAAAATCGTT CAGC	ACATCGCCTCTTCAA CCCACTC
F6H8	F6H8.70	primer	unknown-unique seq	Lan & Col -	ACCCGAGAAGCCGATG ACC	AAATTTGGGGGAGT TGATAAGTG TG
F6H8	F6H8.51	primer	unknown	Lan & Col -	GCTAAGCCATCCAAGT TCTGAG	GTTTGAGTCTTTGGC TTTGATGTTC
F6H8	F6H8.94	primer	unknown	Lan & Col -	CGTGCAGGGGAGTGTC GTG	CAATTTCAATCCCOG CTGGTC
F6H8	F6H8.114	primer	unknown	Lan & Col -	CGGGGCTGCOCTTCATG TATCTATC	GOCCATTGTGCOCT TATTCTATTTC
F21I2	F21I2.82	primer	82463-83233	Lan & Col	TTTTTGGGGATAGGGA TTGAGTG TG	TAAGOGGAAGGAGA GGTTTGAAGTTG
F21I2	F21I2.70	primer	70415-71220	Lan & Col	TGCTGGCOCTTTGTGTC TATTGTC	OOGCGGGGACTGCC TACTC
F21I2	F21I2.68	primer	68874-69938	Lan & Col	CCAGAGOCGGGGAAA GCAATAC	TAGOCGGGGTGGTC TOGTG
F21I2	F21I2.50	primer	50288-50891	Lan & Col	TGACTATAGGGGCGGT TGTGGTAAG	TTGGCTTGGAGTTTG CGTCGTC
F21I2	F21I2.48	primer	48960-50345	Col	ACCTTTCTTCTCAACG CAOCTCAOC	AAOCCCTTGGCATAT AACTCOGACTC
F21I2	F21I2.29	primer	29895-30702	Lan & Col	GTGGGGTCGAGTGGTG TGGTAG	GGATCOOCTGTTACT TAAGCCTATTTC
F21I2	F21I2.02	primer	2313-3098	Lan & Col	AAAATCCTCCCGCGTC AACATC	CATCATCCCAATCCC AAATACAAGTC
F14G16	F14G16.100	primer	3496-4174	Lan & Col	AAACTTTCGCCACTCT CCTCTATTATG	ATTTGCGTAAGGCG TTGATGACTC

FIG. 15B (cont'd)

F14G16	F14G16.81	primer	22905-23604	Lan & Col	CGTCTTCATCGGCTTC GTTTCAG	TGGGGAGCGGAGGA TTCTTG
F14G16	F14G16.66	primer	37689-38299	Lan & Col	AGCGATTGTACCCCA CCATTC	GCTCCGGCAATCTTC TTCCTCTC
F14G16	F14G16.49	primer	54150-54777	Lan & Col	ACTTTGGGCAATGAAG CGTATG	AACCCCTTAGGATT ATTGCTAGTGTTTC
F28D6	F14G16.32	primer	8172-8825	Lan & Col	TCTCGCAGTTGCAGAG ATGGTG	TCCGGAAGAGAAG AGTGATGG
F28D6	F14G16.66	primer	9445-10055	Lan & Col	AGCGATTGTACCCCA CCATTC	GCTCCGGCAATCTTC TTCCTCTC
F28D6	F14G16.16	primer	24251-24873	Lan & Col	TGGTGTATTTTGCTTT GTTTCTCAGG	GTGTGTCGCTATGG GGCTAAGG
F28D6	F14G16.01	primer	39801-40577	Lan & Col	GTGCGGAAATGTCTGG GCTC	AATCACTCAACCGC GAAACTCTATC
F28D6	F28D6.42	primer	42565-43225	Lan & Col	ATCAACCCCCAAATCA CCAGAAAC	AATCGOGTTAGCC ACTTCATC
F28D6	F28D6.50k	MARKER	50323	Col Dom	CGGCTGGCTTTATTAT CTGAGTTG	TTCGGGAAGCCTGT GGAAG
F28D6	F28D6.58	primer	58994-59869	Col Dom	ACCCCGAGCTCAACTT CTTAGG	GGAOGGGAGATGGG ATTACC
F28D6	F28D6.76	primer	76571-77289	Lan & Col	AGAATAGGAGCTGGG AGGTCAAAC	ATACTTAGATGCAA TGGGTGTGGTG
F28D6	F28D6.93	primer	93823-94512	Lan & Col	CCCCATCCTGCCGACA TAAAG	TACTCCGCATCATCT TCCATCTCTTC
F28D6	F28D6.120	primer	7985-8702	Lan & Col	GAGGGGCGAGTAGTTG AATCTGC	CCTAAGCCCGAAAC CAAGTGAG

FIG. 15B (cont'd)



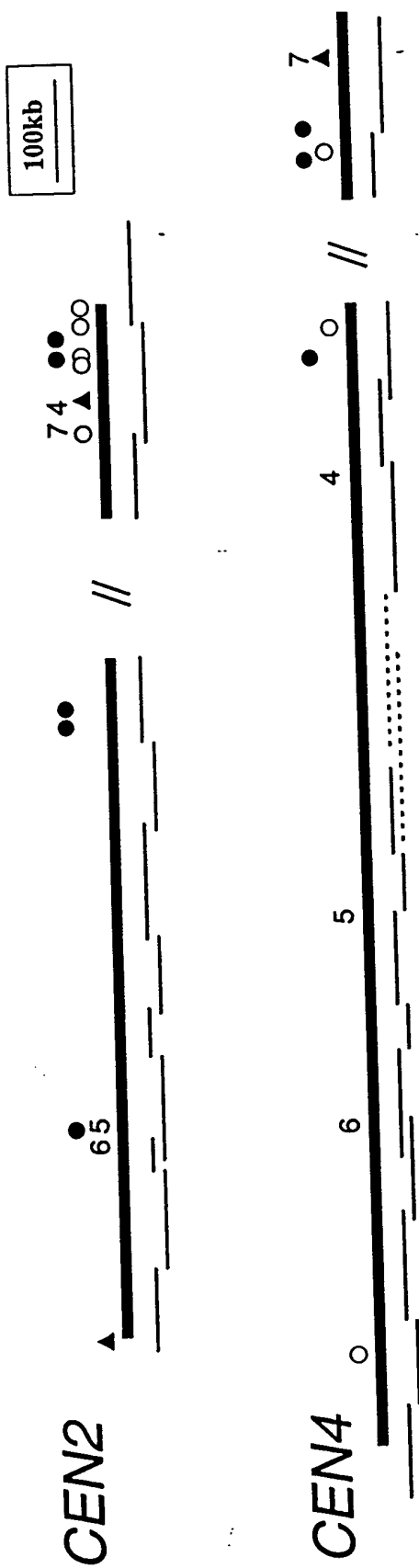


FIG. 16

# CENTROMERE 2

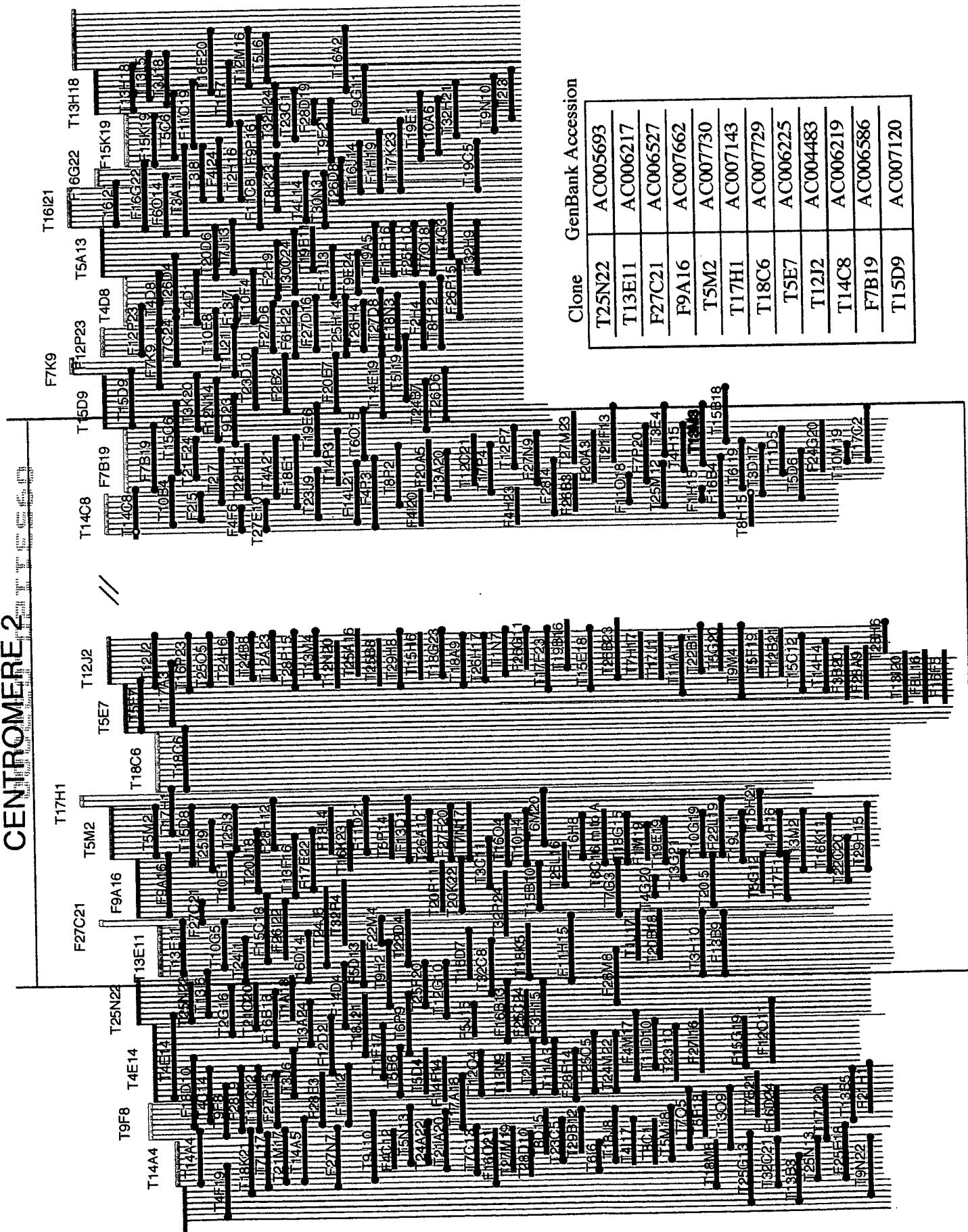


FIG. 17

# CENTROMERE 4

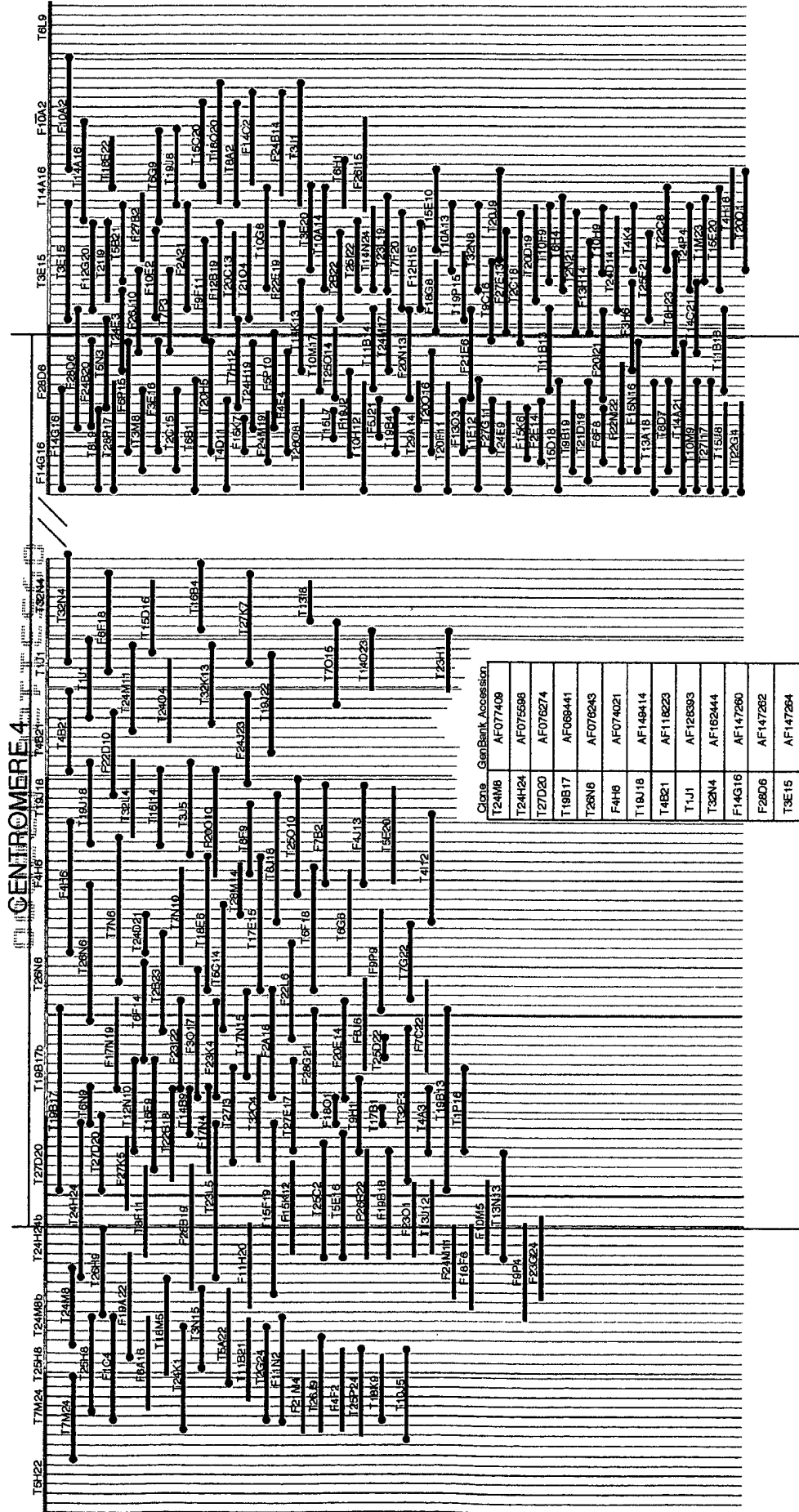
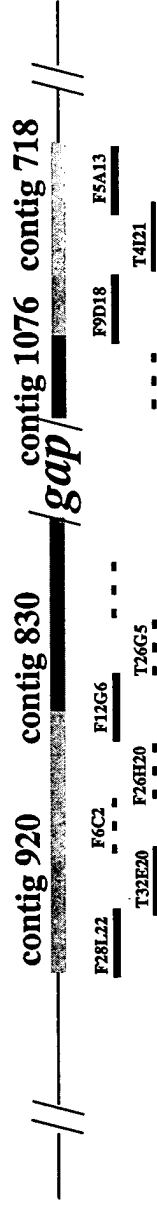
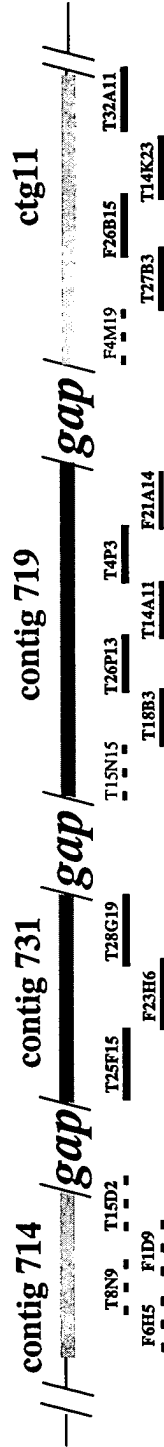


FIG. 18

**CEN 1**



**CEN 3**



**CEN 5**

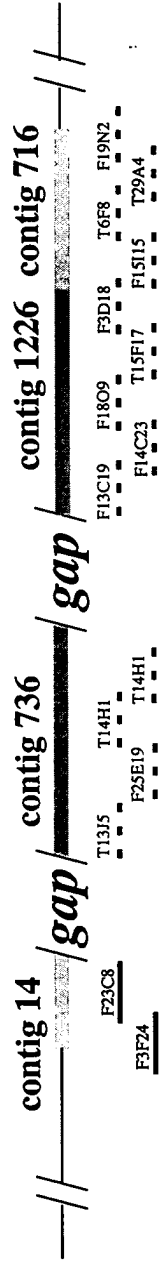
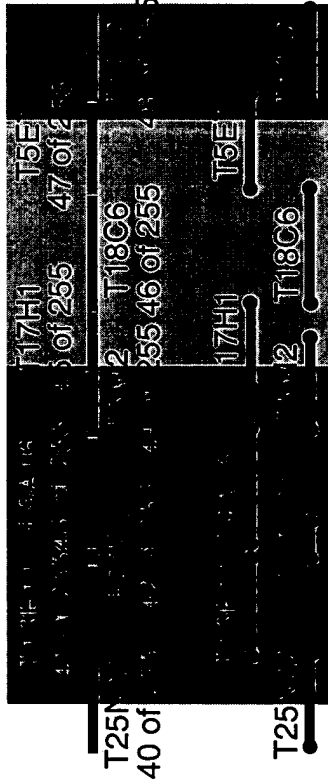
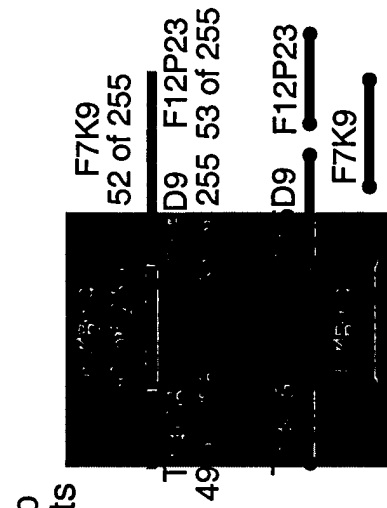
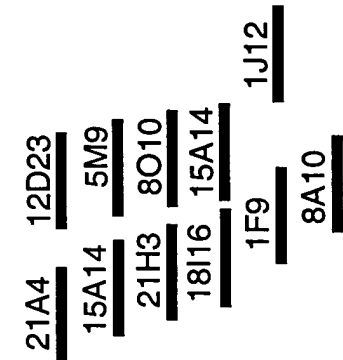
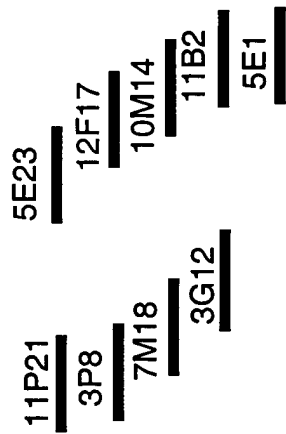


FIG. 19

CENTROMERE 2



GEN2  
Sequenced  
BAC Clones



Physical  
location of  
BiBACs

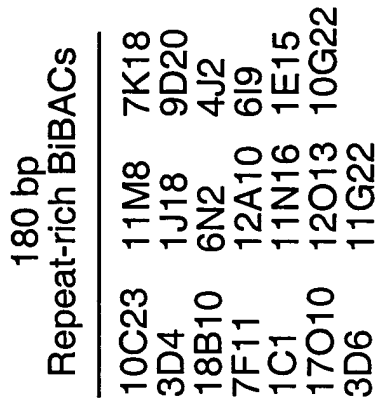
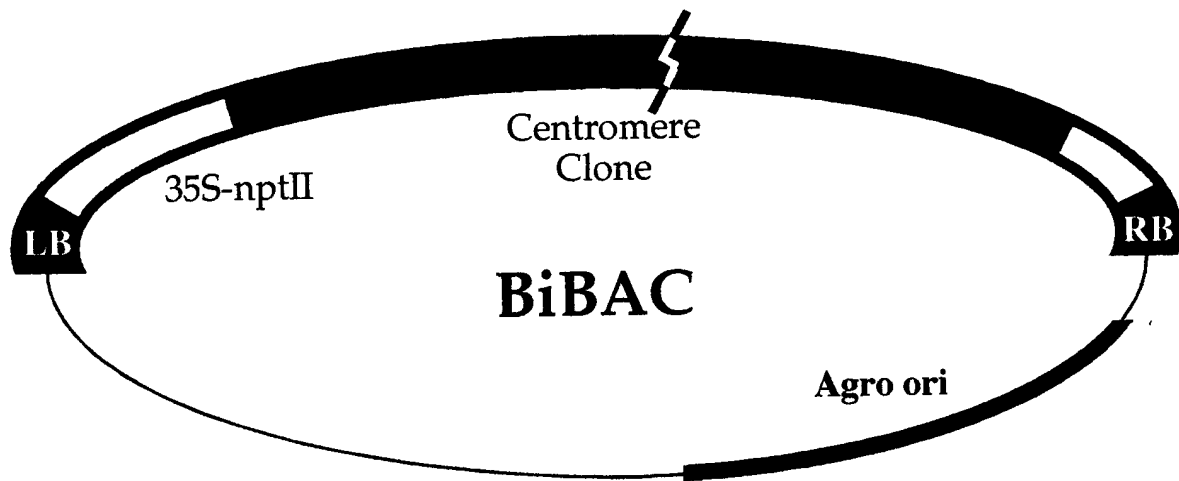


FIG. 20



Add Markers to BiBAC  
utilizing Transposons in Bacteria

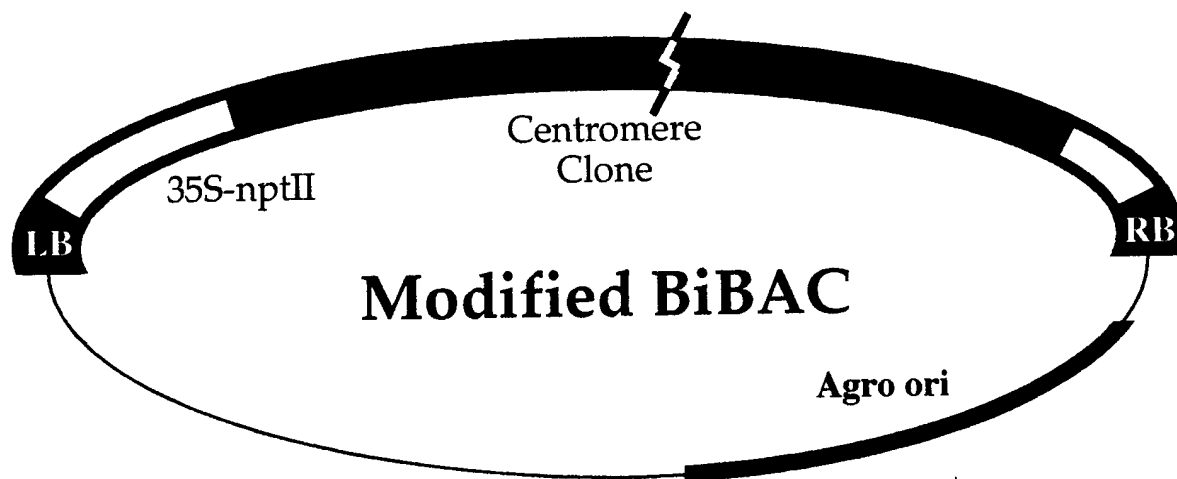
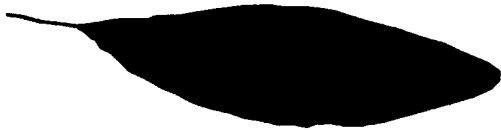


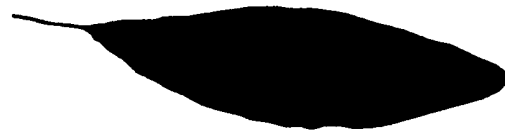
FIG. 21

# Measuring centromere functions in plant mini-chromosomes

## Qualitative assays

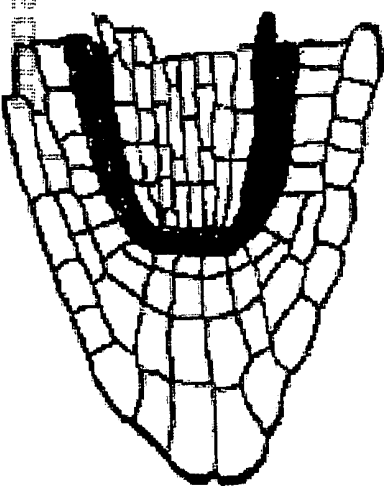


**Stable**

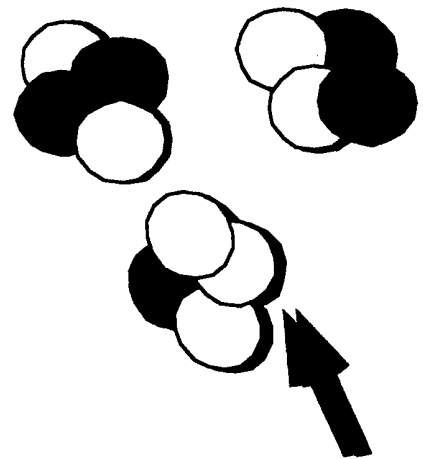
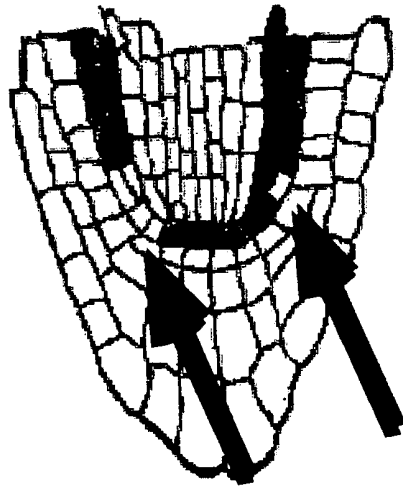


**Unstable**

## Quantitative assays



**Mitosis**



**Meiosis**

FIG. 22

[illegible]

FIG. 23A



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[illegible]

GGCTTTAA-----G-ATCAGG

# FIG. 23B

[illegible]

FIG. 23B (cot'd)







...-continued. Chemical method with Weibullised residue weight table.

[illegible]

FIG. 23D (cot'd)

estimated method with weighted residue weight table.

Alignment Workshop of CHRA-2, 1  
2:00pm - 4:17 PM  
Wednesday, March 7, 2000

[illegible]







0002360" 027 6 65 63

Alignment Workspaces of CHRA-3, using Clustal method with Weighted residue weight table.

Tuesday, March 7, 2000 4:20 PM  
 f6b8-6  
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FIG. 23D (cot'd)